
THE POETICS OF A MULTIPHONIC LANDSCAPE

- reflections on the project

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Table of Contents

Introduction.....	4
1. Entering the Multiphonic Landscape	15
1.1 Acoustical aspects of saxophone multiphonics.....	15
1.2 Interlude – personal note.....	17
1.3 Historical Survey.....	19
1.4 Daniel Kientzy - Les sons multiples aux saxophone.....	23
1.5 Marcus Weiss & Giorgio Netti's The techniques of saxophone playing.....	24
1.6 Other contributions.....	26
1.7 So where are we now?.....	29
References.....	34
2. Exploring the Territory of Multiphonics	36
2.1 The philosophy behind.....	37
2.2 Step by Step (Factors, parameters and manipulations).....	40
2.3 Method – different levels of manipulation.....	44
2.4 Classification?.....	45
2.5 The Archive Box.....	46
2.5 Excerpts (from archive box, sketchbooks and recordings).....	49
References.....	64
3. The Reed Trumpet - a gratifying obstruction.....	65
3.1 Background.....	65
3.2 First Level of Experimentation.....	66
3.3 Secondary Level of Experimentation.....	68
3.4 A final instrument set-up solution?.....	69
3.5 Why involve a trumpet in a project about saxophone multiphonics?.....	71
3.6 Challenges.....	73
3.7 A largely untapped area.....	74
3.8 Repercussion	76
References.....	77

4. Influences.....	79
4.1 Here comes everybody.....	79
4.2 Underwater sounds - diving for pearls.....	81
4.3 Field Recording.....	82
4.4 A sonic realization of ‘the ocean within’?.....	84
4.5 Coda.....	85
References.....	86
5. Solo.....	87
5.1 Challenges.....	88
5.2 Ensemble.....	89
5.3 Electronics.....	90
References.....	91
6. Trilogy.....	92
6.1 Dogma consequences.....	93
6.2 Strategies of composition and improvisation.....	93
6.3 Textures, Structures and Form.....	96
6.4 Recording, mixing and mastering.....	98
6.5 The music recorded.....	99
References.....	104
7. Epilogue.....	105
Appendix.....	109

THE POETICS OF A MULTIPHONIC LANDSCAPE

"The Poetics of a Multiphonic Landscape" is an artistic research project focusing on the saxophone's ability to produce multiphonics (multiple sounds on an instrument considered monophonic). It is a personal artistic exploration into the process of unfolding the poetics of these complex sonics and a reflection over the process, methods and the creation of an album trilogy, consisting of acoustic solo music recorded during the research period.

"Some real things have happened lately. I've come to hear my saxophone overtones as a whispering voice, more and more eager to tell me something."

(sketchbook note - August 18th - 2014)

The main question I have been asking myself during this three-year research project has been:

What happens if the raw musical material, in the creation of a set of solo saxophone works, is based on the multiphonics only and what this material in itself suggest - possibly independent by any stylistic affiliation?

My main objective was to examine why the saxophone's multiphonics have such a captivating effect on me. How could I possibly explore their intrinsic qualities and unfold the poetic potential in them? By the same token, my ambition was to find a suitable artistic context for this enamored relationship that so heavily has stirred the waves of my imagination.

Later in this reflection text, I'll disclose how some unexpected paths during this pursuit revealed themselves. From sprouting interest toward underwater soundscapes, to the making of a hybrid instrument called reed-trumpet; and how my personal catalogue of multiple sounds found its place, not in a public pdf-document or book release, but in a German wooden archive box. I will relay in what way I began to take on the intrinsic qualities of the

multiphonics and the reason why an oscillation between artistic intention and action is so pivotal for an improviser. Furthermore, I will argue, why I think it is not artistically justified to suggest that such sonorities should be learned from books rather than developed by taking the time and effort to make a personal catalogue (e.g. having faith in the ideas that originally lead one towards these sonics and to subsequently personalize them according to your preferences, perspectives and instrument set-up). Hence I will disclose why I decided not to make use of the existing literature on saxophone multiphonics myself (e.g. Daniel Kientzy's *Les sons multiples aux saxophones* and Giorgio Netti/Marcus Weiss *The techniques of saxophone playing*). And finally I will show how I have come to think philosophically about the project in terms of the 'dialogue axis' that the important tracks in the research opened up. It is my ambition that the applied methods will resonate with the reader and be an inspiring tool and contribution to the field in question

Artistic research

Print is silent. It makes the task of writing about music challenging. Consequently, the writings presented here should be read only as part of a practice-based artistic research project; a research conducted by practicing artists and manifested in artworks. My writing will largely reflect upon the music produced during the three-year project period and is to be considered as a supplement to the solo album trilogy *The Poetics of a Multiphonic Landscape*. The trilogy consists of three albums: **Plateau** (solo saxophone album), **Winds of Mouth** (solo saxophone/reed-trumpet/clarinet album with multi-tracked "ensemble" pieces) and **The Reed Trumpet** (solo album with a set of improvisations using the hybrid instrument – the reed-trumpet).

It is my (optimistic) hope that this music flows through the reader of this text.

With this document, I offer some insights into the working process and methods leading up to the trilogy. It has been my ambition that it represents an investigation *through* art (closeness) and not necessarily so much *on* art (distance). Therefore, the text places emphasis on my experiences, visions, problems, choices, questions and artistic development during the research period. (Also with a lurking danger that I'll contradict myself in the process.) The project is to be understood as an open-ended search – a personal canon in the making, not to be confused with an investigation starting with a departure and ending with an arrival. The purpose of the text presented here is not about constructing a theory around

the making of music. Instead, I have created a vast amount of music and shared the underlying methods being used in the process. Ideally they can contribute to the field's critical discourse on multiphonics, saxophone in particular, and the use of unconventional instrumental techniques in general. Perhaps even a contribution to a move away from the rigor of writing instrumental or composition theory, to the musician articulating the inside experience of his or her art – sharing the experience, knowledge, and insights of an art project. It has been my ambition to strive for integrity and sincerity in my contribution to the field.

Note that the findings and reflections presented here are only one component of a research on saxophone multiphonics that can probably (and hopefully) never be carried to a conclusive end. As a performer and composer, I am grateful that this ultimate end is out of reach of the theory, as the terrain of creation thus remains open, and the musical reality will always continue to be a source of amazement, curiosity and adventure.

Multiphonics

Finding and developing a personal musical vocabulary is what I have always understood to be a central impulse and a basic responsibility of the creative musician. An orientation towards improvisation, a classification of new sound resources for my instruments along with fundamental musicianship has been paramount to my progress as a player and composer. Extended techniques, or more precisely: Unconventional techniques for my instruments, have for a long period been fascinating to me as a tool to broaden my range of musical expression and to help feed new structural and textural possibilities into my music. Most notably, the saxophone *multiphonic* has become a special technical and sonic focal point.

The term *multiphonic* is used to describe a sound where two or more pitches can be heard simultaneously – produced by an instrument that is constructed and considered to be a monophonic instrument (e.g. woodwinds and brass). To describe what sort of sound colors the saxophone multiphonic suggests to a performer, let's turn our focus to the piano. Imagining a pianist, rather than playing the piano in a conventional way, she opens up the lid and directly touches the strings and investigate the piano's sonic architecture. Then the inner workings and guts of the piano will be exposed. That's approximately the feeling and sound investigation I'm trying to articulate. Now, the saxophone is more physically connected with our body's lungs and mouth than the piano. But nevertheless, the example

could function as a simple analog to what happens when exploring the multiple sounds opportunities of the saxophone: We ‘lift the lid’ of the saxophone and search for the ‘hidden sound’ in the tube; ‘Touching’ them with air columns, showing them a way to speak out. Perhaps also manipulating them – trying to force them in a certain direction. Or we might let them lead us.

In its most radical consequences, this questions what the true nature of a saxophone sound is. A move towards a fresh orientation of our ears and into unknown acoustic experiences.

To be able to do that is not merely a question of ‘lifting the lid’. It asks for a time-consuming study of the whole embouchure apparatus (air stream, larynx, oral cavity, and lips). Experimentations with the material (saxophone type, mouthpiece and reeds); an intense ear training to be able to hear and control the tonal possibilities; and a careful investigation of a possible personalized fingering-chart methodology. Spending time with multiphonics in this way, highlights the importance of developing musical ears, memory, instincts, sensitivity, embodiment and imagination.

In this research program I saw an opportunity for a more disciplined and structured artistic practice on this subject; to be able to focus on the complex techniques and the sonic panorama they offer, and to explore the implications fully, so that they might begin to form a personal, yet flexible vocabulary for me as an improviser. Ideally I wanted to let the multiphonic sonics function as a synthesis of all the different tracks in my music.

Musical context

I have been working across an extensive range of musical idioms. I’m a classically trained musician, who has worked with numerous composers within the contemporary classical field. I also have a background in free improvised music and jazz, working in many ensembles as a leader or co-leader and writing my own music in multiple contexts. Today, I’m primarily involved in the latter, with improvisation as the predominant guideline in my artistic practice. Drawing on the different aesthetics of the music I have been engaged in, and feeling liberated doing it, has always been a stimulating practice for me. I hesitate to

separate my understanding of different musical styles. Instead, I prefer to view my music as a sum of my collective musical experiences, assembled into one sonic-world. A tradition is not a static set of principles in which conformity creates the essence. It's a living relationship where a personal dialogue in which a not too respectful attitude towards the past informs the future. I don't consciously counteract any specific tradition. Rather, I try to expand it to create an, to me, authentic musical situation. As the distinguished German composer Helmut Lachenmann puts it: "There is a big difference between to look back which is sometimes necessary and to go back which I never did."¹

Solo

I realized early on in the process that I was particularly attracted toward finding a new path for my acoustic solo saxophone playing. I wanted to give it a more stringent focus and at the same time be able to work with the format in a many faceted manner – in order to enrich and enlarge my vocabulary. Ultimately, I also wanted to stipulate contexts for a new perception of this music activity. Playing solo highlights the instrument's possibilities and limits – alone and naked. I find freedom in this solitude, and I believe it's a challenging palette for communicating an experience of singular intensity. Every sound and gesture becomes important and leaves space for all the detailed frequencies and the whole dynamics parameters of the instrument to be heard. It furthermore feels especially suitable for the complex forces of sonics – traversing the spectrum from noise to silence. For these reasons I chose not to include ensemble activity in my project, but to focus solely on playing solo.

The ignition of disappointment

For years I've had a growing sensation that there was so much more still to be done in the field of saxophone multiphonics. I believe that musical visions and inspirations often can be understood as a product of disappointment. A perception the English philosopher Simon Critchley considers to ignite most philosophical questions. "There are lots of stories about how philosophy begins. Some people claim it begins in wonder; some people claim it begins in worry. I claim it begins in disappointment."² For instance the kind of disappointment one can have experiencing a reflective and fascinating music performance, but one that still doesn't satisfy entirely. There's something lacking.

In my case, a *disappointment* with the use of multiphonics emerged equally from experiencing improvisers in my field and from classical contemporary composer's treatment of the multiphonics in their scores. I certainly also must admit a disappointment with my personal lack of a deeper understanding and involvement with them. There is no escaping the interconnectedness of musical experience, even if you try to barricade yourself to the outer world. Obviously, I'm not alone in this field, but I think I have tried to work my way into the multiphonic material through the gaps (of disappointments) that were left by my peers in the field.

To be able to better understand this disappointment, I had to start from a *Tabula Rasa*; namely building my own 'library of saxophone multiphonics'. A cartography that tabulates all of my multiphonic findings, arrived at by hours of experimentations with the instruments and careful listening.

My focus was to be particularly sensitive to the sound's intrinsic quality, possibly unconcerned by what I wanted the material to do for me in a musical setting. Asking questions like: What is it that these fascinating sonics try to tell me as a musician aiming to work with flexible improvising textures, shapes, and structures? Can the technique become transparent in the pursuit of musical meaning? Would it radically change my relationship with the instruments?

From this perspective, I don't see myself as a musician inventing new saxophone sounds but rather revealing what's already there, more or less hidden in the tube. Correspondingly, I have tried to let my artistic intuition and my listening capacity function as the final authority.

To improvise is to build an instrument

Right from the start of the project my ambition was to uncover, tabulate and create, in considerable detail, a cartography for the poetic landscape of (saxophone) multiphonics; being precise about both a historical body of work (i.e. 'past multiphonics') and the creation of a possible multiphonic future.

While this might suggest a research that emphasizes a more theoretically orientated position the main concern in the project has been on the creative, pragmatic and embodied aspect of working with the multiphonic technique, focusing on the fact that these sounds in nature

reveal a compelling textural materiality. It's an acoustic solo saxophone project with an emphasis on the creative ways of using these sounds as the energy center in musical settings.

My primary interest lies in the spatial dimension of the multiphonics timbre – a material filled with so much unpredictability and resistance. Trying to balance it, on the very edge of stability, creates an energy in the music's flow – opens up new paths and sometimes also leaves the music with a welcomed fragile expression of instability. The energy of trying to control an unstable music material feels fruitful – especially working with them as an improviser. Furthermore, in the effort of trying to stabilize a material with so much resistance, the question is also to what extent one should strive to have control? When does that possible or impossible perfect command over the technique close the possibility of the unforeseen, the unheard, the gratifying surprise?

Examining sound resources solely in terms of technique tends to reduce the musical issues to merely embouchure, fingerings, giving an incomplete picture of the total musical context. Multiphonics are often reduced to a hyper-specific technical description of an instrumental performance practice. This way of thinking is of course particularly problematic for the improviser whose personal sound vocabulary may be inseparably linked to rhythmic and pitch considerations as well as issues of physical continuity, energy dynamics, and total attitude. This inherent complexity has motivated me to understand the components of sound on the saxophone – to listen carefully to what these sounds in themselves suggest, what naturally can emerge from them. Not confusing this with the traps of virtuosity or unconscious use of them merely as sonic effects in composed (notated) pieces. Nonetheless, it is useful to isolate the sonic building blocks, so long as we appreciate the extent to which they can later be musically transformed by improvisation and composition. Having considered this, it is tempting to think of this process by rewriting (yet another) Helmut Lachenmann quote: “To compose is to build an instrument”³ into: To improvise is to build an instrument.

Toward a Dogma

Evidently, conducting a practice-based research with a deep focus on saxophone multiphonics, sonics so full of textural diversity and structural opportunities, was intriguing and enticing. The project gave me a chance to create a solid context for experiments, exploration, and discovery of my music and ‘musicking’⁴.

In short, my main concern in this journey have been on communicating

- a) the material/techniques intrinsic worth
- b) the embodiment of mind and body,
- c) a close dialogue with my instruments (man-machine),
- d) idiosyncratic and heuristic learning, experience and thinking
- e) communicate the artistic outcome of the project in a personal way.

To make sure that the project had this focus at all time, I sat up a *dogma* that contains a list of eight fundamental criteria that manifest the intentions and structure as well as sharpen the working methods. Instead of reading these rules in a rigid way (as the term *dogma* for some might suggest) it should be understood that they have helped me immensely to stay true to the nature of the project and to form a strategy in a direction that felt right, rather than curbing my freedom. Hence, one could say that I have chosen not to pay attention to all the possible things I could do, but rather on what I should not do. Some of the dogma represents a quite strict idiosyncratic attitude, for instance I have not allowed myself to use existing multiphonic catalogues/literature, but only make use of my own findings. This might suggest that I ignore the work that has been done before me and further more that I might never have had contact with it. Contrary, in the past I have been working with this literature to some degree (e.g. Kientzty) and are well aware of what they can offer. In this project though, I have, as mentioned earlier, focused on building my own catalogue of multiple sounds that works for me and inform my musical thinking. I will provide further arguments for each of the criteria in the coming chapters.

DOGMA

(Eight fundamental criteria in *The Poetics of a Multiphonic Landscape*)

- The “energy center”/ prime musical material for all the music must be my instrument’s multiphonics.
- The definition of a multiphonic is used in a broad sense and contain all possible multiple sounds on a monophonic instrument.
- The main focus must be on unfolding the poetic potential in my instruments multiphonics – not on technical virtuosity.
- The final artistic result must only be conveyed within the solo music format.
- In the compositional process, the only instruments allowed to be used, are the saxophones and reed-trumpet. The focus should be on what the multiphonic material in itself suggests.
- No electronic manipulation is allowed – only use the pure sound from the acoustic instruments.
- No use of existing multiphonic catalogues/literature is permitted – all the multiphonics should be found in direct contact with the instruments and collected in a ‘personal library’ for further artistic explorations.
- The project must not strive to find or force itself to be a specific style of music, but seek an openness towards what can be found along the way. It is to be kept in mind that a possible personal style of music may be determined by the characteristics that result from the dynamic relation between integrity and unrestrained expressive ability.



Embodiment

To conclude this introduction, I will touch on the overall ethical and cultural thinking of *body and mind embodiment* that the project certainly has an affinity to. In his book *The Thinking Hand* the Finnish architect professor Juhani Palasmaa argues that the potential of the human body as a knowing entity – with all our senses as well as our entire bodily functions being structured to produce and maintain tacit knowledge together – fails to be recognized.⁵ And that it's only through the unity of mind and body that craftsmanship and artistic work can be fully realized. Even those efforts that are generally regarded as solely intellectual, such as writing and thinking, depend on this union of mental and manual skills. This resonates with my own thinking and artistic practice. It is the very reason I have emphasized the importance of embodiment in working with the instrumental technique in question. In embodiment, meanings are experienced rather than conceptualised. That is to say, we grasp them with our bodies, literally incorporating them so they become part of our flesh. This embodiment makes a case of craft, touch and memory – a meditation on the existential use of knowledge to understand our world.

*“As today's consumer, media and information culture increasingly manipulate the human mind through thematized environments, commercial conditioning and benumbing entertainment, art has the mission to defend the autonomy of individual experience and provide an existential growing for the human condition. One of the primary tasks for art is to safeguard the authenticity and independence of human experience.”*⁶ (Juhani Paalasmaa)

Accordingly, it also influenced the form and format in which the project is communicated; such as the decision to only play purely acoustic solo music, releasing the music on vinyl records, and storing my multiphonics findings in a wooden archive box.

In music, sound itself and the intimacy between man and instrument particularly expresses this embodied knowledge. I believe that music has a wonderful opportunity to be a reminder and protector of it – a notion that I feel is increasingly important to highlight in today's virtual and visually focused society.

References - Introduction

¹ Helmut Lachenmann, "Interview with James Weeks," New Notes[Online], <http://www.spmn.org.uk/?page=members/newNotes/access/Cover/november2006.html> [accessed 2015, November]

² Simon Critchley, (2003). "The point is not to abandon reason, but to face up to what reason has become for us" [Online Interview]. http://www.believermag.com/issues/200308/?read=interview_critchley [accessed January 2016]

³ Helmut Lachenmann, "Philosophy of composition – Is there such a thing? " in : *Identity and difference – Essays on Music, Language and Time*, eds. Frank Agsteribbe, Sylvester Beelaert, Peter Dejana, Jeroen D'hoer (Leuven: Leuven University Press, 2004)

⁴ Christopher Small, *Musicking - The Meanings of Performing and Listening* (Music/Culture Wesleyan, 1998), p. 238

⁵ Juhani Paalasmaa, *The Thinking Hand* (John Wiley & Sons, 2009)

⁶ *ibid.*, p.148

I. Entering the Multiphonic Landscape

*'The term multiphonics are sounds generated by a normally monophonic instrument in which two or more pitches can be heard simultaneously. Multiphonics' is normally used when referring to chords played on a woodwind or brass instrument. The woodwinds or brass instruments are monophonic instruments that can usually produce only one note. However, by altering the way of blowing, fingerings or by using voice, it is possible to produce more notes at the same time. These sounds are called multiphonics.'*¹ (Grove Music Online)

This research project is inspired by my experience as a saxophonist, improviser, and composer in the realm of free improvised music, jazz, and contemporary classical music. Against this backdrop of artistic practice, I wanted to investigate the possibility of unfolding the poetics of the saxophone multiphonics. I'm interested in improvisation and expanded instrumental techniques as both are complementary in their reflective nature for musical creation. Due to the multiphonics' versatility and extreme focus on the sound's textural details, it remains one of my preferred expression of musical gestural ideas. For me, it facilitates a natural explorative evolution of various parameters for my music making and exemplifies musical innovation beyond technology.

In this chapter the focus is on the saxophone multiphonics only, and it will, in depth, deal with its context and raise arguments for my approach to them in this artistic research project.

After explaining the physics of the saxophone multiphonics (and adding a personal notion on the subject), I will give a brief historical account of them as well as an insight on former research and resources available in the field. This will naturally lead to my understanding of the usage of multiphonics and why the academic work being done in the area has pitfalls, both for the saxophonist as an interpreter, the composer using these sonics in their scores, and the creative improvising musician.

1.1 Acoustical aspects of saxophone multiphonics

How the sound is created on the instruments and vibrates in air is physics. Thus, a lot of the things that happens before the music reaches our ears and brain are mathematics and physics.

Investigations into the scientific details of the multiphonics acoustics, such as spectral analyzes of

my own or other saxophonists' multiphonic findings, are out of the scope of my research. Still, to better understand the complexity, instability and versatility of the saxophone multiphonics, I will briefly describe some important acoustical aspect regarding them.

The saxophone functions by means of a tube-reed system, where the tube is the instrument itself. The player supplies a source of air, which in turn vibrates the instrument's reed. This creates a pulse of positive pressure traveling through the instrument until an open end is reached, at which point excess pressure drops to zero and a negative pressure pulse travels back to the original source, where there is now a closed reed. The same process occurs now in reverse, as the closed reed sends a negative pulse traveling to the open end and a subsequent positive pulse coming back start, pushing the reed open and letting in more air. This cycle of positive feedback is what produces continual sound as long as an air stream is supplied.

In contrast to a brass instrument, which produces a frequency largely depending on the player's vibrating lips and pressure, the reed has little control over the specific frequency produced. This is taken care of by keys along the entire length of the horn controlled by the player's fingers. The more keys that are closed, the longer the tube becomes, until all keys are closed and the sound travels all the way to the saxophone's bell. As a conical bore, the saxophone's harmonic spectrum includes both even and odd-numbered harmonics.

When a woodwind instrument produces a note perceived as a single pitch, a spectral analysis of the note will reveal several partials. The frequencies of these partials will be regularly spaced and will form part of a harmonic series. That is to say; the frequencies of the partials will all be integer multiples of a 'fundamental' frequency (only pure sine wave tones lack these overtones). With a multiphonic, however, the sonority is perceived as several pitches. The multiphonic is caused by a combination of specific fingerings, oral cavity adjustments, embouchure alteration and air stream velocity. The result of these external manipulations is the sounding of two or more distinct pitches at the same time from a single resonator.

The modern saxophone usually has 23 keys available. Consequently, the number of possible combinations of open and closed tone-holes is far larger than the number of combinations for the standard fingerings. It should be noted that with the use of oral cavity and embouchure adjustments, standard fingerings can also produce multiphonics. But, the vast majority of multiphonics are conceived by unorthodox ('cross' or 'non-standard') fingerings that will distort the resonance spectrum of the instrument. This distortion produce tones of very contrasting quality and they will not have a single definite pitch, but be composed of multiple pitches sounding simultaneously. They may also have a strong oscillation between two or more prominent bordering pitches, causing a

beating quality. In this case, the ear cannot discriminate the partials that are very close together. However, the ear does perceive an overall periodic fluctuation in amplitude of the sonority interpreted as a beat.

To fully understand what role the air column and the reed have in this process, the American physicist and acoustician John Backus offers a scientific explanation of the production of multiphonics in woodwinds in his paper ‘Multiphonic Tones in the Woodwind Instruments’²

“They [Multiphonics] are produced by the simultaneous vibration of the air column at two frequencies that are not harmonically related. One of these frequencies is generated by the lowest resonance of the air column; the other frequency is generated by a higher resonance such as the third or fourth. The reed maintains both these vibrations, oscillating at the lower frequency with the higher-frequency vibration superimposed. During part of the low-frequency cycle the reed aperture is partially or completely closed and can maintain the high-frequency vibration less well or not at all. Hence the high-frequency air column vibration is modulated to greater or lesser degree by the low-frequency vibration. As a result there are produced also two more air column vibrations (sidebands) whose frequencies are, respectively, the sum and the difference of the two original vibration frequencies. The multiphonic tone is thus composed of two main components plus two sidebands. In addition, there may be other smaller components such as harmonics of the two main components and combinations of these harmonics with the main components.”

In addition, a multiphonic effect can be created by singing in the instrument while playing a normal saxophone pitch. This technique is often referred to as *growling*, where the vocalization is not pitch specific. Or simply as the act of *sing and play*, where the vocalization pitch is specific in order to create an intervallic relationship – opening up for contrapuntal or homogenous lines between voice and saxophone. Both these techniques will alter the timbre of the instrument. Rigorously, one could argue that this technique does not belong to the literal definition of a multiphonic since the multiple sonics are created by two separate resonators (voice chords and the saxophone’s reed) and not from a single resonator – the saxophone’s reed only.

1.2 Interlude – personal note

This leads me to what I regard as a multiphonic. As I mentioned in one of my dogma for the project (introduction page 9): *“The definition of a multiphonic is used in a broad sense and contain all possible multiple sounds on a monophonic instrument.”* This then, will include all acoustic sounds that contain multiple sonics. Whether these are perceived as white noise, breath sounds (including

traces of pitch), added percussive key noise sounds, abruptly ‘split-tones’ or active ‘quasi-polyphonic layers of sounds.’ As outlined above, growl and ‘sing and play’ technique would fit into my definition as well. Also, in the most rigorous sense, sonorities not involving the saxophone reed or mouthpiece (playing on the neck like a brass instrument) and different kind of instrument preparations – as long as it produces multiple sounds. Furthermore, I have included one more sonic phenomena, which is actually a monophonic sound yet arrived at by using multiphonic fingerings and isolating a single tone. Strictly speaking, I am talking about *bisbigliando* really – a timbral alternation. But, because this will radically change the pitch’s sound color and is a direct consequence of my multiphonic explorations, I have also chosen to include these sonics into this research project.

Although this definition is perhaps controversially broad, one soon understands by listening to the music created in my project, that my overall focus has been on what would fit into a standard definition of a saxophone multiphonic.

To me, the standard definition of multiphonics is nevertheless one of the main cases of acoustic phenomena directly affecting the sound production for the saxophone. Acoustically speaking, unorthodox fingerings produce air column resonances that are not harmonically related, but which are strong enough to effect simultaneous inharmonic reed oscillations. Because most multiphonic fingerings involve an open tone-hole high on the air column and several closed holes below it, the resulting sounds can often be analyzed in terms of two simultaneous bore lengths. I have personally come to understand the multiphonics as an intricate dialogue between my body and mind’s sensory intentions, and the vibrations of the saxophone’s reed. With the use of a flexible embouchure and fingerings, the instrument starts to suggest more or less simultaneous sounding partials of a fundamental. This dialogue can to some degree be controlled. Thus, creating a captivating conflict between two or more ‘overtone series’ in the saxophone tube – an inner battle or dialogue between them, one might say. Some multiphonics are highly complicated to achieve; others unfold more effortlessly. The pitches created vary in volume and intensity; from the very prominent to the barely audible. The textural quality ranges from massive and harsh distortion (with lots of beating quality) to transparent and faint wisps.

The multiphonics have been widely referred to as chords, but this is not an accurate explanation on how we perceive them. Instead, I think these sonics should be defined, quite literally, as many sounds. Our perceptual experience of them is more about a harmonic event – containing unique tone color qualities. Not to say that one cannot isolate certain pitches and use them both harmonically or melodically. But, there are challenges in the use of them in an equal temperament musical setting,

since most multiphonics contain complex timbres with multiple harmonic spectra being produced simultaneously. Thus often indicating harmonies more related to just intonation or other forms containing microtonality. In equal temperament contexts, the intervallic relationship in many multiphonics will, therefore, feel out of tune. As a consequence, few of the saxophone's multiphonics will offer an intonation that will fit in traditional harmonic (equal temperament) chords. Although many multiphonics can be slightly altered by raising or depressing adjacent keys, it is impossible to intonate the pitch of a single tone within the multiphonic, with lip or tongue bending, without affecting the entire multiphonic. (It should be noted, that it is possible to alter the speed of the beats in some beating multiphonics by adjusting the embouchure: a relaxed embouchure will produce slower beats, and a tighter embouchure will produce faster beats.) Nonetheless, the saxophone multiphonics have an inherent multiplicity occurring in them that seems never ending and inspiring.

1.3 Historical Survey

Simultaneous sounds on woodwind instruments have been used by musicians since ancient times (e.g. the Egyptian *zumarra*, the Greek *aulos*, the Sardinian *launeddas*, and the Arabian *mijwiz*.) In Western music, there has however been a more recent development – from the 70's in the contemporary classical compositions and earlier in free jazz/free improvisation. The first classical musical work of major importance for saxophone using multiphonics seems to be the *Sonate for saxophone alto and piano*³ from 1970, by Edison Denisov. Nonetheless, the use of multiphonics was explored by numerous saxophonists within the improvisational music field a decade before that piece was written. (e.g. John Coltrane, Albert Ayler, and Pharaoh Sanders during the 60's and later in the same decade by Peter Brötzmann and Evan Parker).

The multiphonics for woodwinds, academically introduced in 1967 by Bruno Bartolozzi in his book *New sounds for woodwind*⁴, function as a hugely attractive technique for saxophonist and composers alike, and represent a major instrumental technique for further development of the saxophone as an acoustic instrument. The saxophone multiphonics are now fully integrated within the Western musical discourse, and there are many different approaches to using them.

In his book (79 pages with text, musical notations, and accompanying vinyl single record), Bartolozzi does not go particularly deep into the instrumental technical areas. Few multiphonic fingerings are offered, and it is not very informative regarding the performative aspects. I believe it is rather meant to function as a visionary inspirational tool for the understanding and use of these

multiple sounds – mainly directed towards classical composers wanting to include them in their scores. The book investigates the multiphonic possibilities of the flute, clarinet, oboe, and bassoon. Even if the saxophone is not included, it arguably stands in close relationships to the other woodwind instruments in question. Hence, Evan Parker (one of the foremost authorities in the development of post-modern saxophone techniques), has empathized the importance of this book in his early experimentations with multiphonics. I suspect he was not the only saxophonist that has been inspired by it?

In a conversation with Evan Parker (in capacity of being my supervisor), we played around with the idea that there was probably one significant contribution to the field already in 1941. At least a contribution to the understanding of a productive method of working with multiphonics. Namely, Sigurd M. Rascher's *Top Tones for the Saxophone*⁶. The book is filled with explanations and exercises concerning tone character, tone-imagination, overtones and altissimo fingerings. He argues that the ability to control the saxophone's tone production (uniformity and volume) within the standard range of the instrument, is essential to the development of a useful altissimo register. Rascher's concept of tone-imagination, suggests that while playing a tone on the saxophone, one is to imagine the embouchure and the aural aspects of the following tone internally. This method is particularly useful in helping saxophonist to develop the oral cavity reflexes necessary to voice notes in the altissimo register. The desired effect of this is to enable the saxophonist to be more prepared to hear (imagine) the overtones, thus improving accuracy and quality. So here, already in 1941, we have an exemplary method of approaching the upper harmonics in a multiphonic, through what Rascher calls tone-imagination. It accentuates the important role the flexibility and accuracy of the oral cavity have, particularly when reaching for the instrument's overtones. This notion is also of paramount importance in the study of multiphonics. It is only through the experience and understanding of how the physical manipulations of one's body alters the sound of the saxophone that any attempt at playing individual, or collective partials of a multiphonic can at all be controlled.

Above all, the ear is the final authority in the production of possible multiphonics. The other factors are a) air stream b) the resonance of the vocal tract (throat/larynx and oral cavity/tongue position) and c) jaw position & over- and underlip pressure. I will elaborate on these issues later on.

To twist the original intention of Rascher's book a bit, one could also argue that the fingering he suggests for the altissimo register could be treated as possible multiphonics ones. Hence, these fingerings are not specific to a particular member of the saxophone family and actually remind us of the typical unconventional fingerings that multiphonics often consist of. Furthermore, his fingering charts had probably not been tried out on more modern saxophones and other saxophone types or brands than his Buescher alto saxophone (Rascher argued that he only used this

model since it was close to the original parabolic conical bore dimensions of Adolphe Sax's patent). This then opens up for multiphonic interpretations of the book's altissimo fingerings. Note here that multiphonic fingerings and altissimo fingerings, can not, like conventional fingerings, be directly translated from one saxophone type to another (i.e. a given alto saxophone multiphonic fingering will in most cases have a different frequency structure being executed on a soprano saxophone.) Several contributions, on both saxophone multiphonics and altissimo techniques, have not taken this problem into account at all.

Nevertheless, what makes *Top Tones for the Saxophone* a fantastic contribution to the study of the instrument (in my opinion the most important one) is first and foremost the philosophical approach of regarding the saxophone as a closed tube Containing a great amount of overtones, with the opening and closing of the different keys, in order to make the tube shorter or longer. Not then, what most books on saxophone technique deals with: Considering the instrument as an open tube - closing different keys in able to achieve particular tones. This is not directly stated by Sigurd Rascher himself, but is a notion Evan Parker has pointed out on a number of occasions.

In most cases, the relatively few books written on saxophone multiphonics unfortunately represent the dry and unimaginative (i.e. the books of Ken Dorn⁷, Jean-Marie Londeix⁸, and John Gross⁹). The existing literature has rarely dealt with the visionary ways of using these complex sounds, as being foreseen by Bruno Bartolozzi. Thus *New Sounds for Woodwinds*, represents, in my opinion, an academic landmark of the future of woodwinds sonic development. Particularly, his book contains a thorough reflection on the context of woodwind multiphonics, the problem of notating these sounds and it raises important questions on the instability, individuality and diversity of the multiphonic's nature. Hence, he highlights the significance of a close collaboration between composer and performer. He presents a precise and visionary classification of ways to explore and develop the sonic possibilities of woodwinds. In his conclusion of the chapters dealing with the potential of these, he sums up:¹⁰

A. The unification of the intonation of the natural scale throughout the entire compass of instruments

B. The possibility of emitting that same sound with timbres of considerable diversity, thus permitting the performance of melodies of the tone colour either with single sound, or sounds of different pitch

C. The possibility of emitting homogeneous chords and therefore of being able to organize, among other things, successions of chords with independent movement of each voice part

D. The possibility of emitting chords containing sounds of different tone colour, that is, chords

with compromise up to three different kinds of sounds - harmonies, broken sounds, and differential tones

E. The unification of monophonic and multiphonic possibilities (through linking sounds, passing from single sounds to chords and vice versa) to give a completely effective polyphonic movement.

F. The emission of chords containing quarter-tones, thus augmenting harmonic resources.¹¹

How tempting this sonic menu may seem to a composer, it is in the chapter *Final Observation* he seriously touch on the aspects that are crucial for the composer wanting to make use of these sounds in their scores to understand:

The evolution of instrumental music has always been brought about by reciprocal collaboration between composers and performers, so the statement that composers should avoid working in a vacuum is neither new or unusual. It has always been an essential condition for every real evolution of instrumental music. That composers and performers have sometimes in the past been one and the same person does not alter the problem in the least. Indeed, it would be more to the point if we asked ourselves just how much certain limitations in the development of woodwind technique do not depend directly on the fact that no composer-performer has ever done for woodwind what Paganini, Liszt, and Busoni did for their own instruments. The fact remains that true instrumental conquests have never been the fruit of abstract conceptions, but of toilsome direct experience.

Although this is a statement I strongly stand behind; it should be noted that Bartolozzi here excludes a significant contribution to the evolution of woodwind techniques: In the jazz and free improvisational realm, explorations on instrument technique and expression have always played a major role for the creative musician. In this music, more often than not, the composer-performer is one and the same person. A vast amount of new woodwind techniques has been developed in the pursuit of a personal vocabulary within this field of music. Perhaps most notably on the saxophone, since this instrument still has a predominate role here. Might not John Coltrane have done for his instrument what Paganini did for the violin? Considering that the book was published in 1967, it is obvious that he could not have foreseen the innovative development in this field that the postmodern jazz and free improvisational players have since given us, but these instrumental explorations were already happening by the time his book was written. (I do not mean to burden this text with all the critical baggage that often has accrued around the troublesome relationship between the contemporary classical music and the jazz/improvisation scene. But it is quite striking that the

latter's contribution to the evolution of music (e.g. composition/improvisation, concept, instrumental technique, and attitude) has largely been overlooked in parts of the academic music field and the bourgeois musical circles (e.g. as discussed by the composer and scholar George Lewis in his monumental book *A Power Stronger Than Itself*, where he documented, among others things, the history of how black composers have been excluded from experimental music).¹²

Following Bartolozzi, the most resourceful books on saxophone multiphonics, in my opinion, are: Daniel Kientzy's *Les sons multiples aux saxophones*¹³ from 1982 and Marcus Weiss & Giorgio Netti's *The techniques of saxophone playing* from 2008. The level of detail of how they portray the saxophone multiphonics publications is far beyond any other resources, such as the before mentioned books by Dorn, Londeix, and Gross, since the latter basically only consist of lists with multiphonics (with little or no information regarding possible interpretation, categories, usage, etc.) Therefore, I will concentrate on the former's more comprehensive approach.

Although, both Kientzy and Weiss/Netti, take on an entirely different approach than Bartolozzi, their contribution to the field is indisputably important. But, as I will argue in a moment, there are no resources available that can fill the gap of what an idiosyncratic study of the multiphonics can generate for the creative musician. Besides, for the 'non-saxophonist composers' working with notated music, blindfolded use of these books raises some troublesome issues.

1.4 Daniel Kientzky - Les sons multiples aux saxophones

Kientzky's book has, in the last decades, been the reference literature for contemporary composers and saxophonists alike. The book lists over one hundred multiphonics for each size of saxophone from sopranino to baritone, and the level of detail of his findings have been an important tool for composers who wish to use multiphonics in their work. To such an extent that composers have notated multiphonics in their scores solely by referring to a given number of a multiphonic in Kientzky's charts. *Les Sons Multiples Aux Saxophones* presents tabulated multiphonics that includes: written and sounding pitches, ease of repetition, fingering, trill possibilities and possible separation within the sounds. His research was conducted at IRCAM in Paris using digital spectral analyzes. Consequently, the notation of the pitches is probably very exact. (Note here that it is exact for him and his instrument, mouthpiece, and reed set-up). Other than an indication to have more or

less of the reed into the mouth, or that a sound in some cases can produce an airy tone quality, there is no other performative indication of how to achieve these sounds. Originally, the book came with a CD, containing sound samples of each multiphonic as played by Kientzty - unfortunately, this version is no longer available. Furthermore it should be mentioned that Kientzty has contributed with two other major publications on the saxophone sonic possibilities: *Saxologie*¹⁴ (1990, based on his doctoral dissertation) and *L'Art Du Saxophone*¹⁵ (1993).




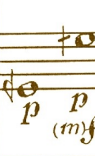



N°	Sons	Répétition	Doigté	Batteries Possibles Avec	Sons séparés	Autres Possibilités	<u>SOPRANO</u>
Transp.		Nuances					
37		 <i>mp</i>	1 2 3 B 5 6 7	46 <i>f</i>  + 14	<i>p</i> <i>(mf)</i> 	  	

Fig. 1 Soprano Multiphonic number 10 from Daniel Kientzty - *Les sons multiples aux saxophones* (page 23)

1.5 Marcus Weiss & Giorgio Netti's *The techniques of saxophone playing*

Saxophonist Marcus Weiss and composer Giorgio Netti's book *The techniques of saxophone playing* offers a new organizing paradigm of multiphonics as well as other extended techniques for saxophone. Their classification of the different multiphonics are ordered in families, working out of the concept that there is a kind of inner coherence within the material. As one can see below, there are two levels of families: First; five families from A-E. Secondly; in a sub-family (*Ba, CE, Ce, Cb, C, D/B, Da, E, and Eb*) that goes into the detailed character of the individual instrument. These letter symbols signify a logical structuring of the material. This categorization, the so-called topography, indicates both the timbre and sound of the multiphonic as well as giving specific notations for each. However, they stress that this is only an approximate structuring, and the main intention is to show the diversity encountered in the behavior of these complex sounds more than to establish classifications in absolute terms.

FIRST LEVEL: Fingering tube without openings, conventional fingerings (low Bb, b, C, C#)

- A. layer of natural overtones over a fundamental fingering tube with one or more openings; non-conventional fingering.
- B. sound with strong oscillation
- C. wide dyad, stable
- D. aggregate of two or more partials over a fundamental
- E. narrow dyad

SECOND LEVEL:

Ba - detuned octave and twelfth, creating a stable oscillation, open and fast; p-ff

CE - dyad between a fourth and fifth, stable; p-ff

Ce - dyad between a minor sixth and seventh, stable; pp-p

Cb - approximately an octave, with the possible presence of the twelfth, usually unstable; pp-p

C - between a minor ninth and an eleventh (octave + fourth), stable; pp-mp

D/B - wide multiphonic, usually built on a minor ninth (also second), partly oscillating; mp-ff

Da - wide multiphonic, usually built on a ninth (also tenth, third or fourth), stable; p-ff

E - triads; ppp-p

Eb - seconds, as minor seconds usually oscillating strongly, with the possible presence of a low fundamental tone ppp; ppp-mp

In comparison to the soprano multiphonic example taken from Kientzy book (Fig.1), this is how Weiss/Netti portray the same multiphonic fingering:

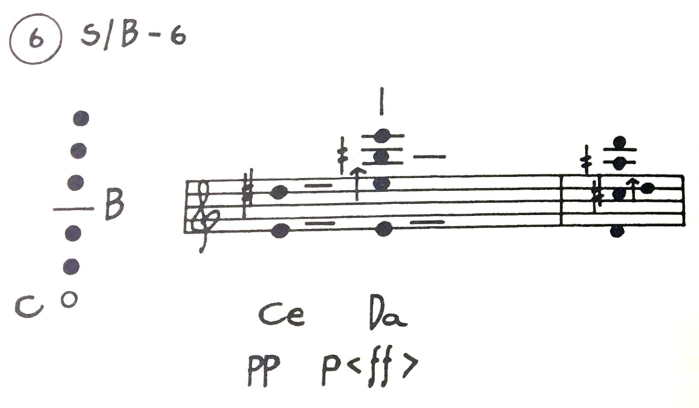


Fig. 2 Soprano Multiphonic number 6 from Marcus Weiss & Giorgio Netti's *The techniques of saxophone playing*

Weiss and Netti furthermore facilitates a numeral list of each saxophone type's multiphonic, in order to get an overview of which family they belong. Included is also a table of threshold tones 'to designate those partials of the multiphonic with which one can enter or exit that multiphonic'. Their discussion of multiphonics identifies embouchure, dynamic, pitch stability, and the book consists of a little over hundred multiphonics for each of the included saxophone types (soprano, alto, tenor, and baritone). Furthermore, a chapter is devoted to the performance of multiphonics with a list of practice tips on how to unfold them. All of the presented multiphonics are recorded by Marcus Weiss to accompany the writings.

An interesting background to the genesis of this book is that it materialized after Netti and Weiss had been working on a substantial one hour long solo piece for soprano saxophone. Namely; Gioio Netti's *Necessità d'interrogare il cielo*¹⁶ (1996/1999), which Marcus Weiss premiered and later recorded. While working on this piece, Netti notably started to practice soprano saxophone himself and investigated every possible and playable combination of fingerings.

1.6 Other contributions

In addition to the significant inputs the aforementioned books have had to the understanding of saxophone multiphonics, there are some interesting PhD theses and other forms of research available.

From a scientific study on saxophone acoustics, there is a informative web-based research done on the measurements of saxophonist's vocal tract as well as a very detailed and accessible insight into different aspects of the saxophone acoustics (including multiphonics) conducted at University of South Wales by Joe Wolfe and others¹⁷. Particularly the study of the vocal tract argues how acute effect this has on any sound production on saxophone.

Also, the thesis by Gary Paul Scavone¹⁸ offers a comprehensive scope of the design and performance issues of woodwind instruments from an acoustical point of view, using digital waveguide techniques. Especially interesting for me is his research into the mouthpiece geometry variations and their associated timbral effects as well as for woodwind tone-holes and different saxophones' design. Prior to this knowledge my understanding was entirely pragmatic – testing different instrument set-ups guided only by the ear and 'feel' of it.

In a discussion concerning Adolphe Sax's originally parabolic conical saxophone, Scavone writes:

"It appears that the parabolic conical bore prescribed by Adolphe Sax produces negligible differences in resonance frequency placement versus a pure conical bore. The acoustic behavior of a woodwind instrument air column is greatly complicated by the presence of toneholes and a mouthpiece. Thus, it is likely that the unique qualities associated with saxophones of this shape (and era) are most attributable to other factors, as well as further possible bore deformities. In general, saxophones which have the parabolic conical shape also have a "darker" tone quality. Such behavior might be attributed to a misalignment of higher partials, preventing these harmonics from fully cooperating in the regime of oscillation and thus creating a sound which has less high spectral energy. It is difficult to determine the reasons an instrument might be considered to "focus" better, though this quality could be associated with proper alignment of the lowest and strongest resonances of an air column. In this case, an instrument design might sacrifice high harmonic alignment to achieve better alignment of the lowest resonances. Beyond such speculation, it is clear that the shape of the saxophone has evolved since its invention around 1840."

It should be noted here that the saxophone design has not evolved dramatically, except for the above-mentioned shift from a parabolic conical bore to a pure conical bore. Throughout its history, few mechanical modifications have been made, thus, the modern saxophones facilitates a few extra keys for technical ease as well as for increased playability in the high end of the standard register. These extra keys naturally offer the saxophonist more possible multiphonic fingering combinations as well.

On the other hand, the saxophone's mouthpiece design has radically changed. The interior proportions of a mouthpiece (called facing) can be altered to favor most aspects of playing, such as high register, low register, brilliance, darkness, volume, easy of response, etc. (although any such favor comes with a proportionate decrease in some other characteristic.) Today there are a vast amount of models being produced, with numerous of different designs and timbral qualities.

Another acoustic research has been conducted by the Argentinian saxophonist Luis Federico Jaureguiberry¹⁹. He analyzed Kientzy's alto saxophone multiphonics, using his own labeling method, encompassing concepts of 'base' and 'induced base', lower and higher components, components quantity. He categorized multiphonic sounds into two kinds: harmonic multiphonics (with conventional fingerings and harmonics of a fundamental) and polyharmonic multiphonics (non-conventional fingerings). The research clearly shows some tendencies in and classification of the harmonic partials of his own production of alto saxophone multiphonics and allow for a better understanding of this phenomenon and systematic practice whenever possible.

Although not directly informing my artistic practice, reading these scientific investigations has been interesting. They enable me to learn more intimately the inner workings of the saxophone, and how this can be objectively measured from a scientific viewpoint. This has certainly given me more to think about. In Gary Paul Scavone's thesis, he also indirectly brings forth an intriguing thought of the possibility of constructing additional tone-holes on the saxophone to facilitate multiphonics. (An efficient digital waveguide system for implementing multiphonic tones, page 168). To my knowledge, this has not physically been done yet, but it would be interesting to see if anyone will follow up on that idea in the future.

Among several papers dealing with interpretation or pedagogical aspects of extended techniques in contemporary classical music, particularly the work of Ian Harrison²⁰ will offer the classical saxophonist a valuable tool for the performance and context of extended saxophone techniques. His thesis investigates how the specific manipulation of these techniques can help the performer to highlight key aspects of the music and how they can be performed with varying levels of nuance through which the implicit thematic relationships within a composition can be emphasized. Consequently, Ian Harrison's thesis contributes to putting the other multiphonic resources in this area in a pragmatic light and help to fill the gap of needed pedagogic orientated material on extended saxophone techniques in general.

Another thesis try to apply a straightforward harmonic approach to saxophone multiphonics within the jazz context. Boyd Allan Phelps's *A Thesaurus of Saxophone Multiphonics and a Guide to Their Practical Application*²¹ implies that multiphonics can be used as chords or double stops alongside conventional jazz harmony. The concept is mainly built on the artistic practice of saxophonist Bert Wilson who also contributes in the research. As I have touched upon earlier in this chapter; the multiphonic timbre is often complex and is the result of multiple harmonic spectra being produced, making this conventional harmonic approach problematic. They try to get around the problem by being willing to ignore 'non-chord tones' in order to outline the harmony indicated, suggesting that these multiphonics are more timbral in nature than requiring exact tuning. The vast majority of multiphonics will have intonation problems in equal tempered music situations, making the amount of multiphonics that can perfectly fit into this conventional jazz harmonic context few. However, the paper offers an attractive look into how some multiphonics could provide

some harmonic possibilities (in solo or ensemble settings) and might work for some saxophonist in the conventional jazz context.

Yet another contribution deals with a very pragmatic approach to saxophone multiphonics: Thomas Bergeron's *Saxophone Multiphonics - A Scalar Model*²², where he uses 'scales' as a metaphor for ways in which series of multiphonics can be related. The Scalar Model tries to provide a concise code for identifying multiphonic fingerings, and a means of defining and classifying multiphonic scales. It is hard to detect any considerations on the aesthetics of saxophone multiphonics from this thesis, so it will perhaps merely act as a practical and mechanically orientated classification of the saxophone multiphonics. Either, this thesis might be a helpful guide to saxophonist, if not for me, in the methodical approach to structuring the notation of the multiphonics or to be able to remember large amounts of fingering combinations.

1.7 So where are we now?

*"Traveller, there is no pathway, there is only traveling itself"*²³

No doubt all the highlighted resources, particularly the ones by Bartolozzi, Kientzty and Weiss/Netti, acts as solid contributions to the field. But, in my opinion, they are probably meant to be used as inspirational catalogues for further personal and creative investigation and not as a definitive source for neither the composer nor the instrumentalist. For me, it mainly lacks the consideration of the individuality of execution, the singularity of the sonic material and the further manipulation possibilities that can spark one's creative imagination. (With *further manipulations* I mean considerations of superimposed/additional manipulation of the 'natural multiphonic' (e.g. different attacks, tonguing, circular breathing, vibrato, trills etc.) In other words: a multiphonic fingering combined with different playing techniques will reveal new aspects and in some cases allow the multiphonic to 'mutate' into entirely new sonics (wich I will return to in the next chapter).

Also, except for Weiss/Netti's book, concrete, practical guidance on how to physically produce multiphonics also lacks in the existing literature (yet, as mentioned, Sigurd Rasher's *Top Tones for Saxophone* 'unintentionally' fills this gap). Particularly, an emphasis on the importance of being able to adjust the embouchure and train the auditory awareness is missing. In the saxophone resources that I have come across, it is furthermore hard to detect any serious attempt in taking on the aesthetic qualities as a guidance for creating music. What I'm indicating is that all the critical

comments I have raised here point to one paramount notion: Unfolding the saxophone's multiphonics is to be considered as a highly personal activity. As a consequence, I'm skeptical to all the catalogs of multiphonics published. Let me elaborate on this matter.

As already discussed, conscious precision is required to unfold these complex sounds and to get the vibration of the reed to respond in exact ways. Hence, it cannot be found in a set of fingering numbers or the facing curve and tip opening of a saxophone mouthpiece. It is only uncovered and discovered in the act of making it. (What I also understand as being the origin of art: the activity of *making* things).

Vast numbers of multiphonics are difficult to recreate exactly or transfer from one player to the next, due to minute differences in the instrument model's design and material, the mouthpiece's interior and exterior dimensions, the reed's cut and strength, and the resonant biology of the player. In addition, the temperature and the acoustic of the performance space they are performed in might as well be a factor. I also have to stress the fact that even for the individual player it's hard to reproduce the same multiphonic sonic precisely.

Both for the creative improviser and for the contemporary classical composer working with notated music, this diversity in performing multiphonics becomes problematic. I have discussed this dilemma with several composers working with notated music (Karsten Fundal, Maja S.K. Ratkje, Barry Guy among others), only to be confirmed in my notion. The only way they can see a successful use of multiphonics in their music, is by letting the interpreter have room for personal flexibility and ideally work in a close relationship with them. One such piece is the before mentioned *Necessità d'interrogare il cielo* by Giogio Netti, written for saxophonist Marcus Weiss. This piece is obviously exceptional because of the composer's unusual insight into the saxophone techniques applied and the very close collaboration he had with the performer while composing it. Another example is *Neuf études pour saxophones*²⁴ by Christian Lauba, created for saxophonist Jean-Marie Londeix (between 1992-94), with his guidances into several unconventional saxophone techniques, including multiphonics. Also, in my humble opinion, two pieces written for me, Jexper Holmen's *Oort Cloud* (2008)²⁵ and Maja S.K. Ratkje's *Sinus Seduction - moods two* (1997)²⁶, represents this gratefully close collaboration between composer and performer – taking into account the personal usage of multiphonics in the notation and the freedom of interpretation.

Still, all these pieces (as well as for other ones of course) are examples of pieces that will work for the performer they are written for, but not necessarily for another saxophonist. But they do at least represent an ideal musical model of exploring the reality of saxophone multiphonics, together with the performer (as Bartolozzi so correctly emphasized).

Here one should note the important difference in a typical classical saxophone instrument set-up versus a player more involved in creative jazz/improv settings. It is arguably inevitable that the classical instrument set-up (saxophone, mouthpiece, reed) is much more uniform in general than what can be considered a more individual set-up used by a jazz/improv player. Probably making the execution of multiphonics for classical players less diverse, but not to the extent that it should not be considered that a given fingering will yield different results – perhaps unpredictable results – from one performer to the next also in the classical saxophone context.

Clearly, there is a danger that a large number of contemporary classical composers are misguided by the existing multiphonic catalogs. The connection between multiphonic fingerings and the sonorities is not at all a simple one-to-one correspondence as some composers might think. The fact that they, to a large extent, casually use these existing catalogs in their work, makes me wonder if they might ‘confuse the map with the territory’? These catalogs are largely separated from the practical performative use of the multiphonics, the individuality in execution, and only reveal little about how further manipulation of them can change the aesthetic possibilities of these sonorities. Crudely, one can claim that ‘the territory never gets in at all’.

To bring attention to my research project’s title “The Poetics of A Multiphonic Landscape” for a moment, it should be stressed that what I regard as the poetic potential in these sonorities is not necessary the stable reproducible multiphonic, but the contrary; the unstable yet flexible aspects of them. Hence, the resistance to controlling them opens up an unforeseen path in my music. Working with these sonics in that manner yields searching, experimenting, sensitizing oneself to them, whether intellectually or intuitively driven. For me as a performer, it becomes an act of balancing between control and non-control. In turn, the music sometimes gets very physical and takes on a fragile quality that I find captivating. This balancing act also contains a kind of “doubleness” in my music – the point in a performance when one is both deep in the subjectivity of the moment and objective in the sense of listening ‘outside’ oneself. I tend to think of these occurrences as listening both in front of and behind the eardrum. Establishing technical control behind the eardrum, and then zooming outside the eardrum to further shape and see where the sound can bring one. This is a central notion of my practice of using the saxophone multiphonics in a performance, to such an extent that this dialogue informs my improvisation and organically shapes my music.

In my opinion, a major (if not the most important) contribution to the development of acoustic instrumental techniques comes from the creative improvising musicians (e.g. Derek Bailey, Axel Dörner, Barry Guy, Rhodri Davis and Han Bennink). From these individual artists, we can

hear a broad expressive palette of unconventional techniques in use – often unique. By creating various contexts for experiments, exploration and discovery, these musicians have been focusing on specific instrumental techniques and ideas – exploring their implications fully, so that they begin to form a personal, yet flexible vocabulary of musical creativity.

From the first exploration of the multiphonic spectrum in jazz music by John Coltrane, to Albert Ayler's waves of overblown tones, growling, and multiphonics with no definite pitch, the saxophone multiphonics usage have today been considerably expanded by individual saxophone players in the field. Most notably John Butcher, Evan Parker, Christine Abdelnour and Ned Rothenberg. In my discussion and meetings with these musicians, it is clear to me that we share the view that saxophone multiphonics are to be regarded as a highly personal research into very individual and detailed sound resources of our instruments. What separates us is first and foremost the singularity, in which musical contexts we apply the saxophone multiphonics, what kind of musical gestures we use them for and how we further manipulate the saxophone multiphonics, as well as for our general aesthetic preferences. I believe that the before mentioned saxophonists are suitable examples of musicians that demonstrate a personal path towards freedom – through discipline. They have all taken these multiple sounds to new territories and perspectives.

Exploring and creating music with multiphonics is naturally a deeply personal issue for the creative musician. To be able to continue to fascinate and inspire, one should only encourage this singularity. Luckily, one's sources of inspiration and one's motivation are so various, enabling new usage and new contexts for them to occur in. This is perhaps the very future of saxophone multiphonics? At least it is where my research project could be placed.

The amount of multiphonics that are possible to produce can feel overwhelming. Learning them from books with endless fingering charts, seems counterproductive on several levels. First, as I have explained, these fingering charts are other saxophonist's findings and will work for them, but not necessarily for me. Secondly, I believe the only embodied solution is through an idiosyncratic exploration – to let one multiphonic finding naturally lead to the next one. Multiphonics that are possible for me to reach for and that sparks my imagination. It's only through a curious, explorative and aural study that these sonics can be truly segmented in the artistic practice – acting as a reflected musical gesture and sculpting musical forms and ideas. Finally, since the nature of these sonics is so complex and mysterious, the feeling of discovering new multiphonics oneself should not be underestimated. After all, it is often in this amazement the music drifts to new places and perspectives. Not to say that one should avoid searching for possible multiphonics in books at any cost, but I would claim that this should only be done as a supplement to the above-mentioned methods.

I grasped early on in my research project that making yet another catalog and trying to work out possible new notation system for multiphonics, was not my quest at all. Nor did I want to focus on external composers' needs, but only on creating my own music and in the process being ready to reveal my underlying reflections and methods. With this philosophy, I started my research by developing a personal library of saxophone multiphonics' – a place to document my findings during hours of experimentations and listening. Thus, I have chosen to document them in a private wooden archive box (only showing parts of it publicly), rather than making an official book release or an online pdf document.

So, let me conclude this chapter by rewinding to my introduction text and the eight fundamental criteria for the project. In one of the dogma I stated: "No use of existing multiphonic catalogues/literature is permitted - all the multiphonics should be found in direct contact with the instruments and collected in a 'personal library' for further artistic exploration." This then is only partly true. It should be clear by now that I do know of, and have previously been working with some available resources. (The Kientzy book, in particular – I discovered the existence of the Weiss/Netti book at the beginning of my research). Nevertheless I have abandoned making use of others' multiphonic charts years ago. Instead, I have slowly started to collect my personal multiphonic findings since 2009, for all the reasons I have argued.

My philosophy has naturally developed towards an idiosyncratic approach, with heuristic learning and a sensory attitude to the multiphonics intrinsic qualities. To some extent, part of the previous knowledge extracted from the catalogs is, of course, integrated – consciously or unconsciously. But, it is my ideal, and furthermore feels like the only constructive solution, to find my multiphonics in direct contact with the instrument – with a clear vision and ear for what they can offer my music. In this way, I regard my research project as a step towards transcending the knowledge of the before mentioned resources and in the direction of my own poetical landscape of multiphonics.

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2. Exploring the Territory of Multiphonics

“To me, I took a militant attitude towards sounds. I wanted sounds to be a metaphor, that they could be as free as a human being might be free. That was my idea about sound. It still is, that they should breathe ... not to be used for the vested interest of an idea. I feel that music should have no vested interests, that you shouldn’t know how it’s made, that you shouldn’t know if there’s a system, that you shouldn’t know anything about it ... except that it’s some kind of life force that to some degree really changes your life ... if you’re into it.”¹ (Morton Feldman)



The saxophone family consists of seven types of saxophones (excluding a few rare ones, such as the modern Tubax, Soprillo, and the much older C-melody). In my project I have chosen to make use of two of these saxophones types: Soprano saxophone and Tenor Saxophone (both in Bb). Also, a third instrument found its way into the research; a hybrid instrument called ‘reed trumpet’. The reasons for including this instrument is manifold, which I will elaborate on later in the chapter; *“The Reed Trumpet - a gratifying obstruction”*. Here I will, in detail, disclose how I have explored the saxophone multiphonics only.

2.1 The philosophy behind

To be able to hear the pitch content in the seemingly noisy sonorities of multiphonics is something that slowly becomes possible through disciplined practice and experience. When one first encounter them, these ‘noisy turmoils’ can be very confusing to the ear. Continuously working with them, the ear knows what to listen for, and consequently the whole embouchure knows how to adjust according to that. Players that understand the overtone framework of the instrument and have cultivated the ear can discover a vast amount of multiphonics on their own. Going back and forth between solo performance, ensemble activity and solitary practice in the studio, has given me lots of material to work and reflect on. Furthermore, listening to and study a vast amount of music – within the saxophone territory or far away from it, creates an understanding of their possible use within a musical context. Still, the solitary work with the instrument and a very detailed focus on the sonic’s intrinsic quality has been my primary method. This is also what I believe to be of predominant importance when one tries to unfold the saxophone multiphonics and to get a piece of solo music underway. To rehearse, repeat, memorize and modify multiphonics is a crucial part of being able to use these sonic vibrations in improvisations. Working with this complex material, returning to it as a sonic refrain, gives me an experience that deepens each time by new impressions and new physical know-how.

Over an extended period, I have ‘hunted’ and collected a vast amount of multiphonics for soprano and tenor saxophone. With over three hundred multiphonics for tenor saxophone and a little less for soprano, it’s a lot of different fingering combinations and delicate embouchure adjustment that needs to be learned before the material turns into embodied knowledge. Hence using these complex sounds means maneuvering on a knife-edge between aestheticism, auditory awareness and physical boundaries – challenging and rewarding with the potential of producing ever-new layers of complex and intriguing textures.

The multiphonics are primarily discovered during solo improvisation, exploration and experimentation. Many of the multiphonics I try to reach for provokes the instrument’s resistance. In return, unfamiliar sounds are extracted from it. For my

own sake, I immediately write down my multiphonic findings along the way and also apply them into a possible musical situation (arguably to varying degrees of success). Nevertheless, it helps me to memorize them better and draw associative (metaphorical) inspiration from them. Later they are worked on for further control and also combined with other sonic findings. Either they get stabilized and incorporated in my playing, or they are passed over for the moment, to be further investigated and unpacked later. The task is then to fine tune them, adding all playing techniques imaginable, and finally listening to the depth of details to be found. Slowly even the most complex multiphonics begin to reveal within. In this way, I try to explore the methodology in the construction of each sound – always with an auditory awareness of the poetics. My intuition and my ear is the authoritative guide here and to a lesser degree do I try to understand the intellectual construction of them – theoretically or mechanically. Since playing solo is also the performative format of my project, this idiosyncratic working method seems particularly suitable.

Intrinsic qualities of the sonic

The study described above, functions as much as a disclosure for compositional and improvisational ideas as an exercise in technical control over the instrument and its possible expressive augmentation. In this process, I don't necessarily try to force the sounds to fit into a particular musical concept, idea or style. "Not to be used for the vested interest of an idea", as Feldman puts it. Instead I try my best to be attentive to what the sounds possibly want to tell me themselves – what musical directions they inherently might suggest and seduce me into. In other words, the question becomes: What are the intrinsic qualities of that particular multiphonic? This then is how they pollinate my imagination and sometimes immediately put forward musical meaning. At a slow pace (I must admit), this awareness and cultivation, in the end, opens up for complete musical landscapes.

Imagining a sonic

Without forgetting the intrinsic worth of the sounds, I also tend to search for the conceivable plasticity in any given multiphonic fingering. It's essential for me, particularly as an improviser, to also be able to sculpt these multiple sounds freely so that they can get as close to my inner sonic visions as possible (wherever these might come from in the first place). Furthermore, to be able to use them in various contexts.

So, in some cases, I reach out for some imagined sonics for a specific artistic purpose.

Due to the resistance and complexity of the multiphonic technique, ‘the saxophone’s will’ (as described above) and my ‘musical intentions’ creates an oscillating dialogue. In that sense, the scene before us is a constant balancing act between forces of control and non-control – chaos and order. Gravitated towards order, as I believe we all are, it then becomes a matter of trying to stabilizing the artistic outcome of these dialoguing processes. Actively using them in a performance one risks complete failure. Yet, the slightest or biggest coincidence ignites a spark that one hopes will lead to something meaningful. At best, it makes it possible to achieve an intimate and interacting flow in the solo performance that might not be achievable otherwise. An energy is created from the tension field of two forces (man–instrument) that I believe positively informs my music’s gestures, textures, and shapes. Hence, a total demand over the instrument technique in question is not the pursuit for me as an improvising musician; a deep expedition into its prospects and an embracement of a rewarding instability is.

Poetics (from Greek *poiētic*²)

Before we look closer into the details of my sonic exploration, allow me to elaborate on a word I have used often so far in the text and that is central to my project’s title and understanding. Poetics seems to be used and understood in many different ways. From the literary discourse, literary theory, to something align with rhetoric and also in the meaning of the aesthetic position of an artist. ‘The term ‘poetics’ derives from the Greek *po(i)tikos* (‘relating to poets’) via *poisis* (making poetry), *poiein* (to create) and the Latin *poeticus*. Among the ancients it was used for tracts that dealt principally with the craft of writing’³ In this project I use it in a double meaning, both as the ‘theoretical framework’ that lays behind a poetic moment to happen, and in the meaning of this poetic sensation itself. All the crafts and bolts that leads to something that potentially makes room for an imaginary. I understand poetics in the latter meaning as when something (i.e. music, art, and beyond) has an expressive quality that resonates strongly within me. A poetic moment can often be experienced when this something has a connection with a certain preferred aesthetic quality, but can also occur in every perceived expression possible and in the most surprising contexts. It is,

anyhow, quite hard to articulate in words what a ‘poetic sensation’ is. Yet one could at least say that it has the power of changing how humans experience the world – one is touched by the beauty and magic. After going through my notebooks in the process of writing this text, I found a Cage-inspired *mesostic* that I wrote early on in the project:

a spiritual Practice
in-between and amOng
deep breathing, carEful observation, interaction
The opening and holding space
speakIng about what one finds there
soniC sensibility
a bridge open in the preSent between the past and the future

2.2 Step by Step (Factors, parameters and manipulations.)

Let us take a closer look at the different phases of my multiphonic exploration, listed here in three phases. As discussed in detailed in the former chapter, there are many considerations to be taken into account when approaching them, first and foremost the authority of the ear. What we might term as highly individual factors are the following:

A

Body and saxophone equipment :

- 1) Anatomy (resonant biology of the player; air, lungs, throat, oral cavity, lips, jaw, teeth etc.)
- 2) Instrument model (material, how parabolic conical is it – new/vintage, key system)
- 3) Mouthpiece model (material, exterior dimensions, chamber size, tip opening and facing)
- 4) Reeds (material, brand and strength/thickness)

In my experience the equipment one chooses to use will have considerable effect on how a multiphonic will respond and sound. As well as discussing this with several saxophone colleagues, I have play-tested different saxophone models, reeds, and mouthpieces during my research. Without trying to advocate a general theory here, each of these factors made some multiphonics accessible and others hard to unfold at all. The response, intonation and general ‘feel’ of these set-ups were remarkable divergent. Also, the slightest minuscule modifications on where the mouthpiece is on the neck will change the multiphonics considerably. Having a broad experience in both classical and jazz orientated playing, obviously using various instrument set-ups, I believe I might have a fair amount of flexibility to adjust to their differences. Still, these were obvious in my experimentations.

The instrument set-up I use now is the same as when I started my research. A lot of things can be said about saxophone equipment (and this is not the place for it), but let me just point out that I consider any changes in them as primarily an invitation to new compromises. One never gets entirely satisfied. Instead, a possible confidence in the selected equipment can occur (if it feels flexible enough to function applying a series of different playing techniques and present to you some timbral choices). Thus, replacing former doubts with a strong focus on what you actually can express through it.

B

Next phase will then be to work on the specific parameters of the anatomy – the whole embouchure apparatus so to speak:

Air: the amount, direction, speed and support.

Neck and throat: head position, opening or tightening the throat's tract.

Vocal tract (or embouchure): In general: tight, normal, relaxed

Tongue: adjusting the oral cavity by tongue positions, usually the back of the tongue (e.g. voicing vocals a, e ,y i, o etc.)

Reed: take more or less of the reed or mouthpiece into the oral cavity

Reed pressure: affecting the the opening between the tip of the reed and the mouthpiece tip rail.

Jaw flexibility: intonation – stability of pitches

Lip: dampening/mute the reed (maximum contact with reed) or let it vibrate freely (minimum contact with reed)

All these elements work together. To be able to precisely 'hit' a specific multiphonic one is depended upon a corporeal memory of the positions. The work being done in this phase is at the core of how to achieve control over multiphonics – the fundamental factors of any manipulation of them is constructed here. All these parameters will enable one to monitor and expand the range of the multiple sonics and isolate the pitches being detected as well as to alter the timbre (e.g. dark, mellow, breathy, nasal/thin or harsh/squawky, woody, brassy etc.). It becomes achievable to produce leading notes or a melody line from a multiphonic - from the alteration of the embouchure and precise breath control one can cause a note to sound louder and clearer than the others, making it possible to work with a simultaneous creation of melody and harmony. It will also provide control over the sonic dynamically, from ppp to fff. Accordingly, the tone quality and balance in them will change drastically and propose a palette of textural possibilities.

C

Further Manipulation.

Finally, what we can call further manipulation (or consideration of superimposed/additional manipulation), could include any added playing techniques and instrument preparations in the following list (and possibly more):

Articulations: staccato – tenuto, diaphragm breath instead of tongue, slap tongue (closed or open) , tongue ram, flutter tongue, ‘tremolo tongue’, ‘split tonguing’, double/triple tongue.

Durational stability: shortest = slap, longest = circular breathing.

Trills – regular, double, quarter tone/microtone, half-key trills, tremolo, bisbigliando as oscillator.

Vibrato (lip, tongue or diaphragm) regular, irregular, intensity, tempi.

Key- intonation of pitches – (slow, fast, big, small).

Glissando and portamento (with lip or with fingering).

Voice – singing simultaneously. Normal voice, humming, falsetto, distorted voice, growl.

Air/breath sounds (with minimal clear pitches – breathy white noise-like)

Key clicks and other percussive effects.

Teeth on reed.

Instrument preparation: e.g. mutes (knee, silver paper, water bottle, textiles, lengthen the bell etc.) or tone hole and/or mouthpiece manipulations with sticks, wax, paper).

All of these techniques will affect the ‘home’ multiphonic fingering and they will respond very variable to them. (On some (e.g. *teeth on reed*), the sonic result will be very far from the natural sound of the home’ multiphonic fingering). The outcome of this exploration will give strong indications on the sounds intrinsic quality and the possible plasticity in them. Needless to say, these can be juxtaposed, varied and morphed with endless possibilities of conventional and unconventional technique as well. In both these phases, I believe the multiphonics’ intrinsic quality seriously starts to create a dialogue with one’s artistic intentions.

2.3 Method – different levels of manipulation

Out of this comes a specific method of exploration that could be applied more or less chronologically. In this process there is a constant shifting between listening to the intrinsic quality and one owns artistic intentions.

1. The ‘home’ multiphonic (or ‘natural’ multiphonic) of a given multiphonic fingering: This will produce one particular multiphonic, so much easier than anything else, that you could call it the home multiphonic of that given tablature. In this phase it is about getting these possible pitches to vibrate, to investigate what’s there.

2. First level of manipulation:

a) Isolate different regions:

Next phase is about suppressing, let’s say the lowest frequencies or the higher frequencies, and select a specific frequency or frequencies inside the multiphonic that cannot naturally be reached at that level without further vocal tract manipulation.

b) Gateway multiphonics:

Not all fingering will have a sense of clear, easiest speaking spectrum, but some do. They are stable and reliable (can be used for punctuation really). The stable ones could act as gateways to the less stable ones – a potential for the stable ones to mutate into less stable ones. (Note here that they are sometimes only less stable because one’s ears do not know what to listen for or that the reed does not respond the way one want it to.)

3. The secondary level of manipulation.

a) Further Manipulation – consideration of superimposed/additional manipulation:

To apply all possible playing techniques on the home multiphonic, consequently changing the multiphonic’s character and function. In some cases only creating a vague reference to the original home multiphonic as well as drifting away from it towards other multiphonics.

b) Juxtaposition and morphology: The home multiphonic (or its further manipulation) is juxtaposed with any other sounds (conventional or unconventional). Also exploring the multiphonics through a transgressing morphology ‘that allows one to gather together sounds with similar forms or functions in chronological or geographical sequence so that variations or evolutionary changes might become clear’, as R. Murray Schafer writes⁵. Thus turning one sound into another. Through mutation and variation procedures all of the mentioned manipulations then starts to create larger and larger events of musical gestures

2.4 Classification?

Any classification can give information to help discover connections, significant patterns, contrast or similarities. However, I have discovered that many of the multiphonics overlap into different classification categories depending on the effect the different levels of manipulation have on them. Although I have not classified my multiphonics systematically, I could at times group them for instance according to the aesthetic quality or pitch content. I might then use these in improvisations or composition that yields for a certain coherence in the material, that could be, let's say a group of breathy/transparent sonics. Another example might be a group of multiphonics where the range and pitch content could be classified and used harmonically or melodically. If not directly classifying the multiphonics, my notations might include:

- a) Tonal spectrums: pitch content and range i.e. similarities between multiphonics depending on whether the multiphonic is an unstable dyad (a set of two notes or pitches) or a more stable spread of notes, which typically involves the interval of a minor ninth or minor twelfth.
- b) Mechanical consideration. Groups of multiphonics that can easily and at faster tempi be combined, with neighboring fingerings (close to each other).
- c) Combinations groups: combinations of multiphonics regarding "harmonic", melodic or aesthetic connections and/or the technical simplicity in executing them. Flexibility of combinations (isolating possibilities and combination with other monophonic and multiphonic sounds).
- d) Dynamic spectrum: volume parameters and how the timbre and pitch content changes through these.
- e) Perceptual level: e.g. harmonies, transients, noise.
- f) The aesthetic typology of multiphonic sub-groups. (associations.)
harsh, metallic, crispy, smooth, transparent, breathy, distorted etc..
- g) Semiotic – The multiphonic used as a metaphor.
Notions on purpose and meaning.
(One thing is all the possible sonics one can reach for, another thing is for what existential purpose is it used in the music).

Correspondingly, some of these methods and considerations are documented in sketchbooks/notebooks and in the end found their way into what I call my 'personal library of multiphonic findings', manifested in a wooden archive box:

2.5 The Archive Box



their function and meaning (semiotics and semantics), or their emotional/affective qualities (aesthetics). Practically this usually implies: a) approximately possible pitches of a given fingering b) personal information regarding embouchure c) further manipulation possibilities d) small sketch of possible notation or a little musical gestural idea e) combination possibilities with other multiphonics (cross-referencing) f) symbolic, metaphorical or aesthetic associations/classification (see paragraph 2.4).

I have actually come to regard the archive box as an art object on its own terms. It represents a deep part of my artistic practice and explicitly is:

- 1) a collection of working notes (a practice diary).
- 2) a place for generating inspiration.
- 3) a location for a personally inscribed practice.
- 4) private, at the moment (closed).

In his essay *Becoming-Music: The Rhizomatic Moment of Improvisation* (2002)⁶, Jeremy Gilbert investigates a possible Deleuzian music philosophy in improvised music. Discussing the indian *raga*, Gilbert writes:

“The *raga* cannot even be played and rehearsed in the manner of Western scale or mode: it exists only virtually, on the point of becoming-music, on the very brink between ordered territoriality and becoming-cosmic. Deleuze and Guattari write that a ‘musician requires a first type of refrain, a territorial or assemblage refrain, in order to transform it from within, deterritorialized, producing a refrain of the second type as the final end of music: the cosmic refrain of sound machine (Deleuze and Guattari 1987:349)”

I have referred to my archive box as a personal library of multiphonics, however the reality of these sonics is what actually happens in a performance. Perhaps a sonic material that only exists in the very embodied improvisation. After all, notations of these sounds will never be anything else than two-dimensional symbols of a three-dimensional phenomenon. My written documentations of them, function as a ‘springboard’ to my saxophone improvisations and compositions, therefore only represent a robust potential of becoming-music. For this reason, I will turn the attention towards a few extracts, both from the archive box and from different sketchbooks, allowing us to get a ‘two-dimensional’ look into what kind of sonics I have been working with. I will furthermore, in some cases, refer to the ‘three-

dimensional' music recorded during the project. I have added some comments along the way, to give an insight into some multiphonic possibilities and not meant to be a thorough pedagogical or analytical tool. Hence, it is constructed rather freely, but will give a slight glimpse into some areas of my exploration.

2.6 Excerpts – from archive box, sketchbooks and recordings.

(note that the pitches are not written in 'concert pitch')

The image shows a handwritten musical score for a soprano multiphonic exercise. It includes a title 'S', a series of notes with a dashed box labeled 'osc.' and a note labeled '(B)'. A note labeled '(E^b)' is also present. A list of notes includes 'H tr / tremolo'. A list of notes includes 'pp- tt', 'Easy & very flexi (Jaw + tongue)', 'Shakuhachi poss.', 'Precis articulation', 'Firm u.p', and 'Voicing: a → e → y'. A list of notes includes 'Clear minor third', 'add 9th creates slightly intonation problems', and 'Good monophonic on fundamentals'. A musical staff with notes and a list of notes includes '8va', 'stable', and 'tt (distorted)'.

Handwritten notes and musical notation on a card:

- Notes:**
 - osc. (dashed box)
 - (B)
 - (E^b)
 - H tr / tremolo
 - pp- tt
 - Easy & very flexi (Jaw + tongue)
 - Shakuhachi poss.
 - Precis articulation
 - Firm u.p
 - Voicing: a → e → y
 - Clear minor third
 - add 9th creates slightly intonation problems
 - Good monophonic on fundamentals
 - 8va
 - stable
 - tt (distorted)

This is an example of a card with a soprano multiphonic. The notation is only meant for me. It is an easy one to achieve, and very flexible. The pitches are approximately, but the two lowest pitches are very exact (with good intonation). There are some notations on embouchure (Firm upper-lip and the voicing possibilities (vowels: a, e og y) With normal embouchure these will create the three first pitches B=a, adding an D=e and to get the C#=y (small letter are the vowels) Furthermore the multiphonic can be very distorted adding the two upper pitches.

Good for precise articulation/punctuation. Osc. is short for oscillation possibilities and shows which keys. There is also information on ff (fortissimo) trill/tremolo. Finally, it says

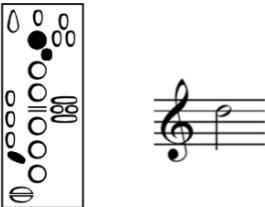
Shakuhachi possibilities. This means isolating one pitch to use it as a monophonic sound (in this case the fundamental/lowest pitch in the multiphonic) My reference here is the wooden breathy quality of the Japanese flute Shakuhachi.

Isolating one pitch in this way creates a vast amount of possibilities for creating sounds with very different textures than with normal fingering. I have mentioned that I regard these as monophonic sounds arrived at by using multiphonic fingerings. I use the technique especially on soprano, since it gives me a very breathy wooden flute sound (if one opens up the throat and lower the tongue as much as possible). It is often flexible for glissando and vibrato.

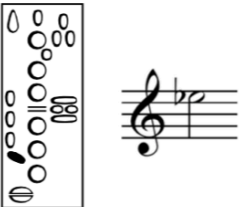
A sound example of these could be found on the Winds of Mouth⁷ album, and its title track Winds of Mouth (about 0:47 into the piece).

Here are some of the notated examples more of these soprano sonics:

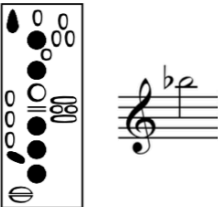
a)



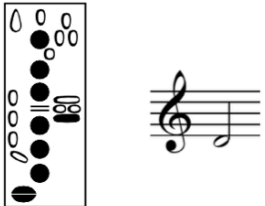
b)



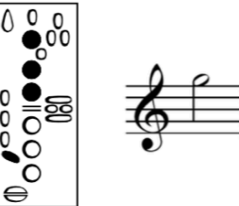
c)



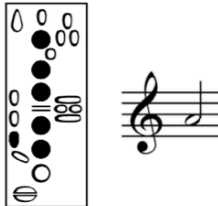
d)



e)



f)



The breathy/airy and transparent sounds are something that appeal to my aesthetics. There are many multiphonics, both for soprano and tenor that can offer this. The next card is a soprano multiphonic that has this quality and produce a compelling harmonic. It often occurs in *Sea Meet Shore* on the Plateau⁸ album (for the first time at 0:50)

5

8 •
•
o B^b
c5 •
•
•
c

+ Ta (trm)

"Elegant, a lot of resistance
Reveals white noise contours"

[Comb 8 •
n.p. •
B^b
c5 •
o c

u.b (+ 8va)
melody

- Medium tight embou.
- More reed
- pp - mf (keep back)
- Underblow ft = "duck" + flutter
- Interesting slap. + tremolo poss.
- Jaw drop + gliss
- Y-tongue i b

mp < > Gliss.

As one can see from the information I have given myself here, it has many other possibilities of being superimposed by 'further manipulation' techniques: Under-blow (very low jaw position) in fortissimo creates a 'duck' like sound. A high tongue position (vowel- y) can create high harmonics and be very articulated as well. There are glissando possibilities, slap and tremolo tonguing, and trills. Also a combination multiphonic that is both mechanically easy and harmonically interesting. On the bottom note line, at the beginning, there are small notations on a u.b. melody (under-blow with octave key), playing with octave key on, but push the jaw so low down that it creates pitches approximately an octave down (only in some cases, as it can also be a not equal tempered 7th or 9th down.) When played very soft this also creates a reference to ethnic wooden flute. These small melodies occur many places in the mentioned *Sea Meet Shore* (5:29 for example) They are often a 'true' multiphonic since they tend to have contours of harmonics around them.

Next card portrays an easy and often used (not only by me) multiphonic played with polyrhythmic fingering structures; separating left and right hand. Consequently, creating a quasi polyphonic impression. (Variable speed and with very flexible embouchure, creating a wide frequency spectrum):

S

approx. $\left(\frac{1}{2}\right) \left(\frac{1}{2}\right)$

(beating quality from mp - tt)

poly-fing.

• - osc./trill

• (B) - bis

•

•

C

cut, engine

↓

contours

(more read)

4 3

5 6 1

7

random poly-fing. (push read.)

① Poly-fingering

② pp - airy contours

③ Slap - punctuation

④ Flutter/tremolo tongue

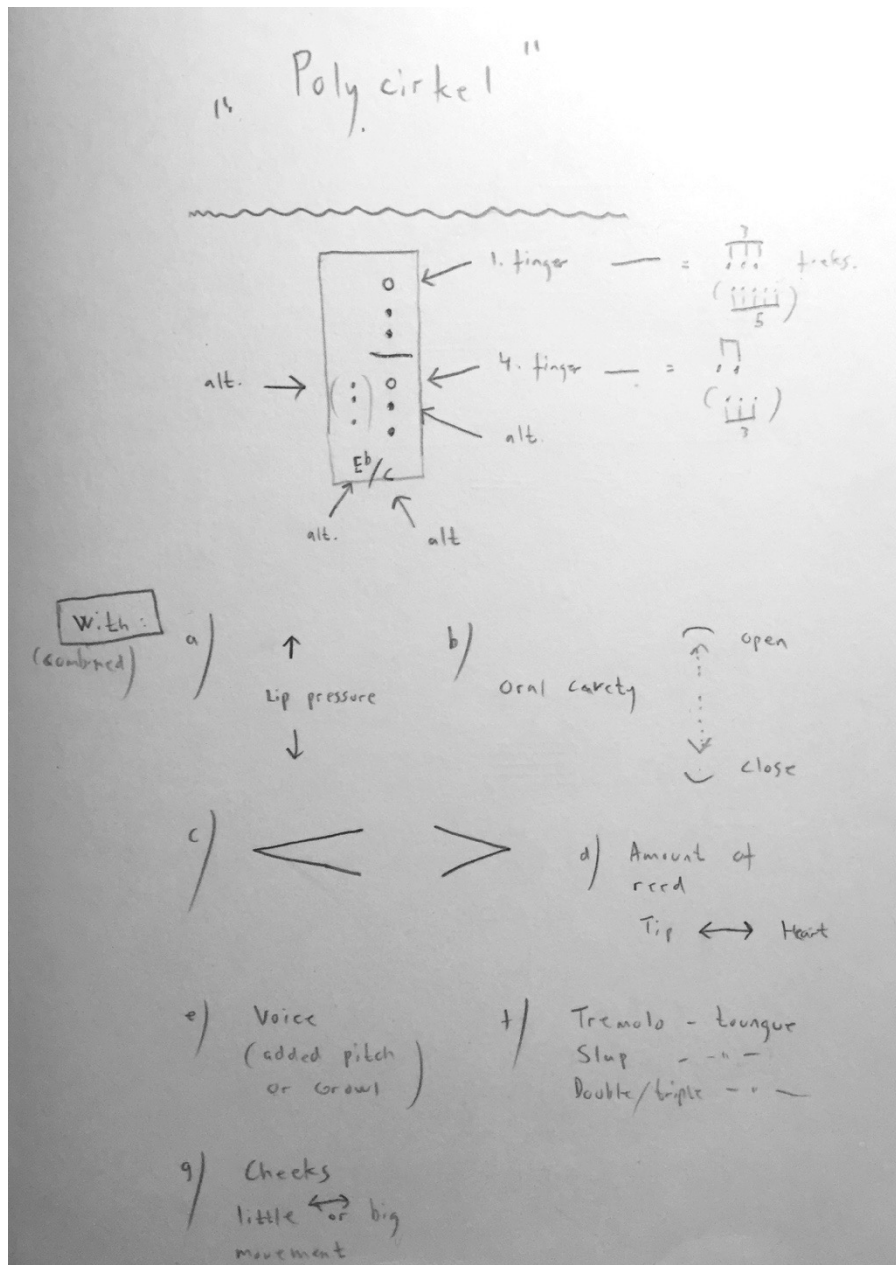
pp < >

Here the fingering possibilities are outlined on the left side of the card.

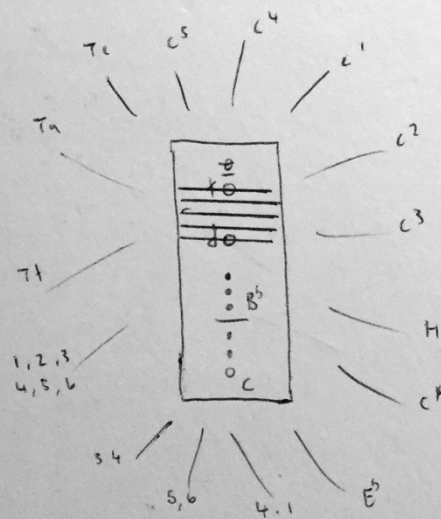
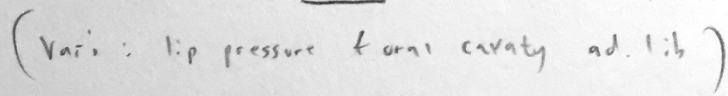
As one also can see, there are other usages, such as flutter/tremolo tonguing, slap and punctuation, and also the transparent/airy sonics presented before.

Nevertheless, working with this on the poly-rhythm fingering possibilities is what I wanted to show here and I use this technique often. In the piece *Stellar Droplets* on the Plateau album (around 3:10) I use this particular one applying circular breathing and with multiple tongue and embouchure positions. Another examples of that way of working with the multiphonics one can hear in *Periechon* from the same album. Particularly from 3:28 and to the end, is a long exploration on these techniques with a vast amount of different 'home multiphonics'. Note that all these poly-fingerings can of course also be further manipulated by tonguing techniques, vibrato etc.

Here are some other examples of a possible notation of the technique, taken from some of my notebooks. I call it "Polycirkel" here and excuse my Norwegian writings here and there:



dur. 3.00"



(Jiggling with
fingerings
and fingurines)

Next card from the archive box is a tenor multiphonic used in the very beginning of the *Plateau#3* piece on the Plateau album.

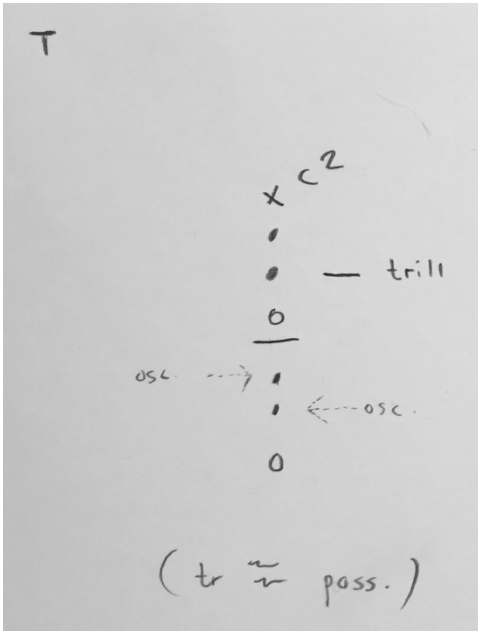
The image shows a handwritten page with musical notation and performance instructions. On the left, a vertical staff with a treble clef (labeled 'T') contains a series of notes: a whole note 'c', followed by four eighth notes, a half note, and a whole note 'C'. To the left of the notes, the text 'osc. bis' is written with a bracket. Below the staff, the text 'Round & warm with rust.' is written. At the bottom left, a large parenthesis contains the text 'quad combi w:' followed by a vertical stack of notes: 'Bb', 'C', and 'C'. On the right, a small staff with a treble clef contains a whole note 'Bb' and a whole note 'C'. Below this, a list of performance instructions is written: '- norm emb.', '- Voicing: y creates beating eff.', '- Voicing: a clear two/three tones', '- Japanese gliss. possib.', '- Flex jaw ~~~~~', '- Slap poss.', and '- Slightly reed pressure'. At the bottom right, a staff with a treble clef contains a glissando line labeled 'gliss', followed by a wavy line labeled 'osc. 4+5' and the text '(tremolo affect.)'.

This is an example of a very round and open sounding tenor multiphonic. There are, as always many possible expressions to reach for, but I tend to use it for its Japanese 'vibe' (again). It's very flexible for glissando and vibrato. A clear pitch definition, with the possibility of adding some dissonant to it (the upper pitch). It is also flexible regarding the timbral quality; from round to nasal.

Furthermore, this also demonstrates a multiphonic that I tend to use with spatial focus – slow textural variation using different pressure on reed, tongue positions, attacks and oscillating keys (enharmonic trills etc.) Particularly, the latter is at stake in the aforementioned *Plateau#3* (on several multiphonics). This oscillation with the keys creates a slightly altering of the sounds timbre, an enharmonic trill (or other neighbouring pitches).

The next two cards are also tenor multiphonics, and among other possibilities, they can be used for moving back and forth between one pitch, two pitches and more:

T



8va

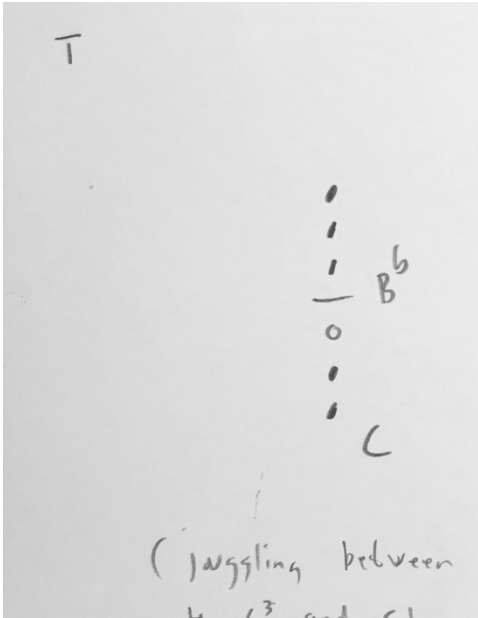
- Gliss ✓
- U voicing, the timbre "up front", gather it there "kaste it" / "trutmann"
- p - f
- Tremolo tongue (High woody sound)

Series: mp : c² : c² etc.

(tr ~ pass.)

"Play against" → don't choose the obvious

T



8va

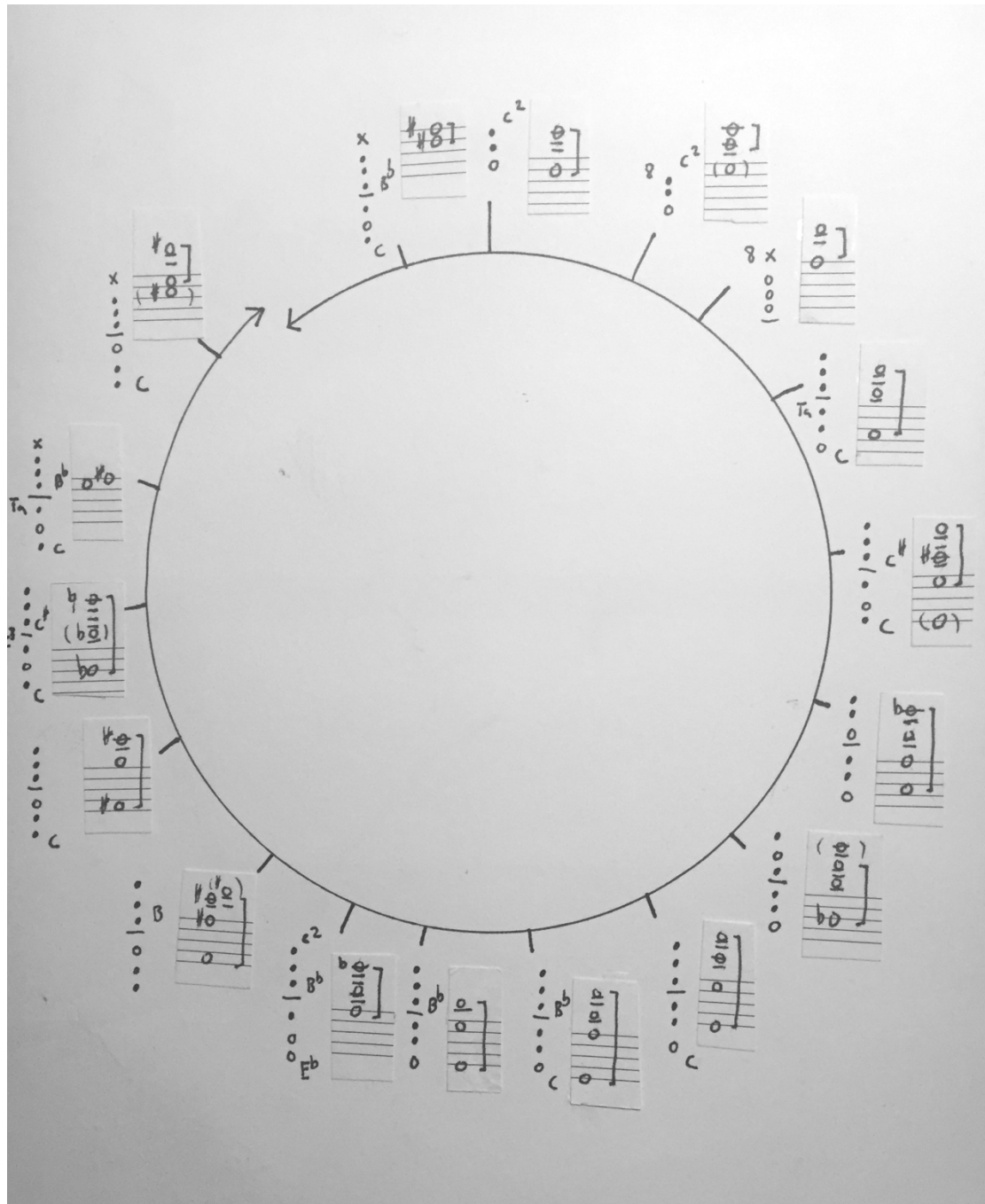
- Tighter more than without B^b
- Voicing: i - y
- Jaw can be flexi.
- Fast airstream
- Firm v.l.

Comb! Series: B^b etc.

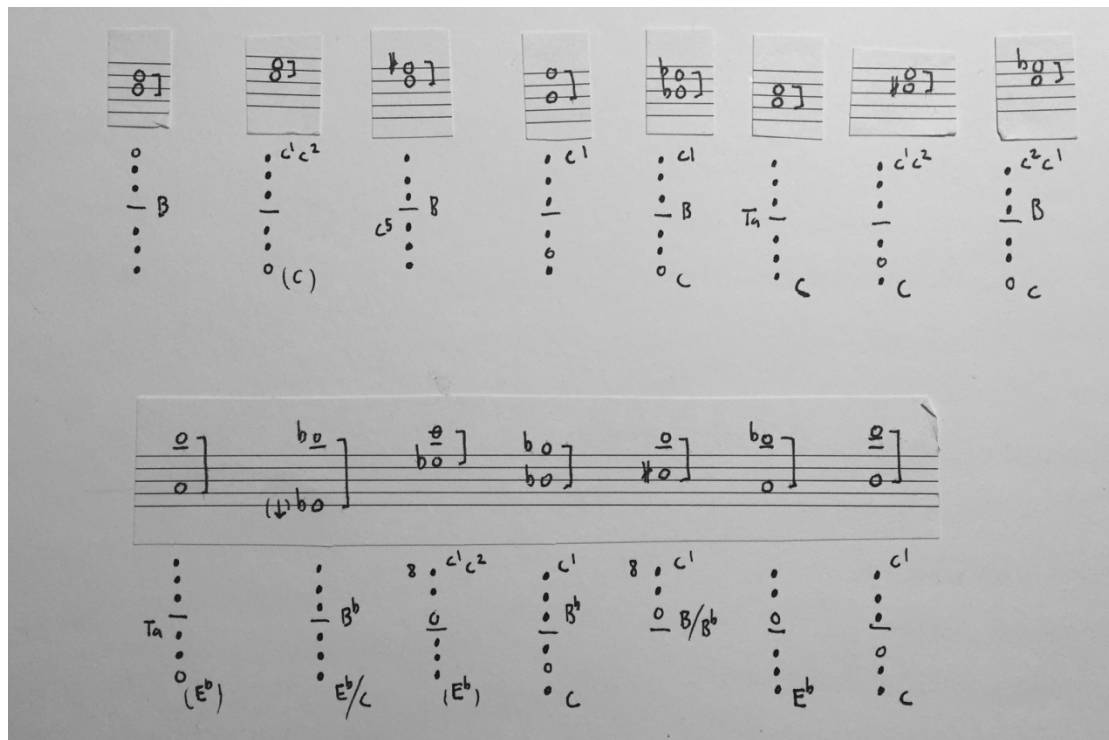
(juggling between 4, C³ and C¹)

Isolating one of the pitches and reach for the second or third pitch (and going back and forth between these), makes it possible to link melody and harmony together.

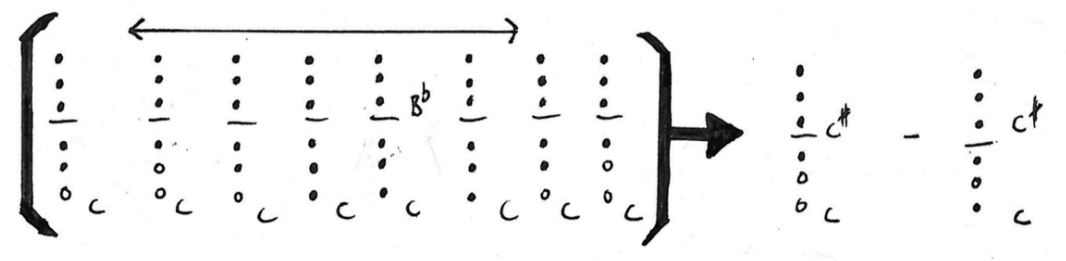
In the *Sulphur Harmonics* piece on the Plateau album I wanted to exclusively work on that idea. Only the clean multiphonic without any applied effects. As the title of the piece might suggest, these 'chord' are not totally in equal tempered tuning always, furthermore if one aim for only two pitches to sound, often contours of other harmonics occur. Nevertheless, there are many melodic and harmonic possibilities here. As a working sketch for that piece I wrote a circle with some prospects:



Especially the ‘two tones’ multiphonic is used in dense multi-tracked layers in *April Flourish* on the *Winds Of Mouth* album (from around 3:20) Here are some of them:



There are many other examples I could cite and analyse in this way but the final cards and notesbook extracts are with no further comments. They represent just a few more glimpses of the hundreds of possibilities there are. Many of them are to be heard in the recordings done for this project, which I discuss in Chapter 6.



From sketchbook (distorted/noisy tenor row)

T

(c' c² c⁴ for E.P.)

"Glass window"

Ex: "Freeze" one hand and let the other be active. Doing that with the right hand feels natural. Try turning it around!

Jaw transposition

- Flexible - jaw move - modulates
- Relax / loose - 1/2 pressed - take more need
- Air → Above & down
- Voicing around a-e
- Dry slaps.

left hand activity:

The page contains handwritten musical notation. On the left, a vertical staff with notes labeled c', c², c⁴, and c. Below it is the text "Glass window". To the right, there is a list of instructions for vocal technique. Above the list is a small staff with notes and the text "Jaw transposition". Below the list is a staff with notes and the text "left hand activity:". The page is marked with a 'T' in the top left corner.

From archive box

T

"Flip side"

- Two Faced ! (skizofrenic)
- Firm u.p. lip
- Open A voicing
- Good w. water bottle in bell

Drone tr ~ / : c²

~ + c'

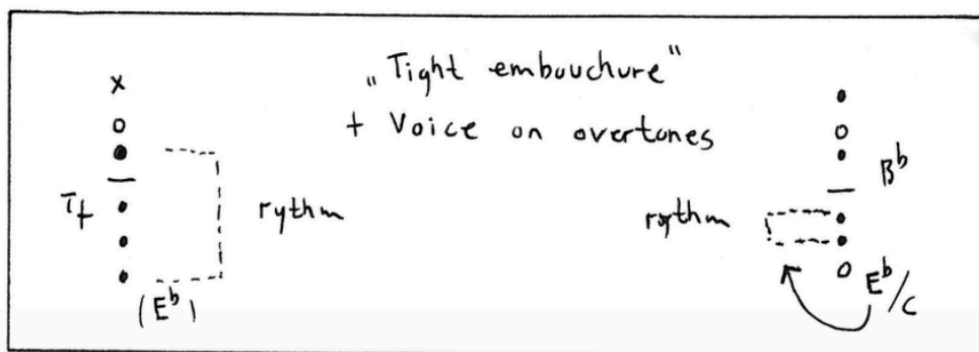
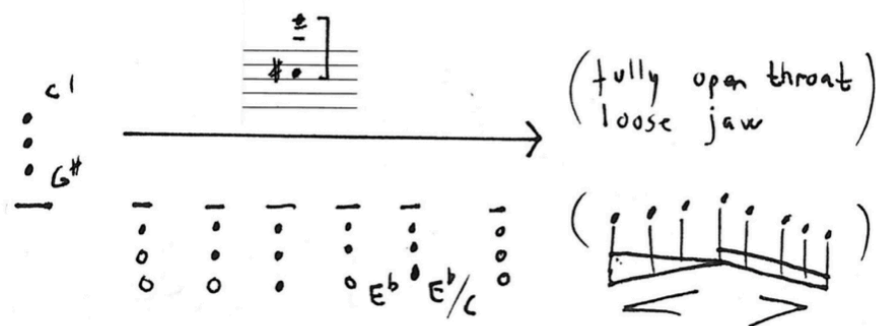
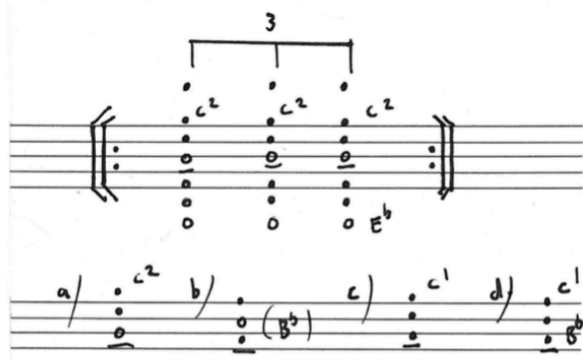
Osc. : c[#], B and (B^b)

enters. alt.

(explore!)

The page contains handwritten musical notation. On the left, there is a vertical staff with notes labeled c', c², and c⁴. Below it is the text "Flip side". To the right, there is a list of instructions for vocal technique. Above the list is a small staff with notes and the text "Jaw transposition". Below the list is a staff with notes and the text "left hand activity:". The page is marked with a 'T' in the top left corner.

From archive box



From sketchbook (rhythm structure possibilities)

Ten. "Slap-zone" II

1) $\begin{matrix} \cdot & c^1 \\ \cdot & \\ \cdot & B^b \\ \textcircled{R} & \end{matrix}$ $\begin{matrix} \cdot & c^2 \\ \cdot & \\ \cdot & B^b \\ \textcircled{R} & \end{matrix}$

2) $\begin{matrix} \cdot & c^1 \\ \cdot & \\ \cdot & B^b \\ \textcircled{R} & \end{matrix}$ $\begin{matrix} \cdot & c^2 \\ \cdot & \\ \cdot & B^b \\ \textcircled{R} & \end{matrix}$

Combi. $\begin{matrix} \cdot & c^1 \\ \cdot & \\ \cdot & B^b \\ \cdot & \\ \cdot & c \end{matrix}$

Gliss/Shake

$\begin{matrix} X \\ \cdot \\ \cdot \\ \cdot \\ \cdot \\ T_c \\ / \\ T_r \end{matrix}$ \longleftrightarrow $\begin{matrix} \cdot & c^2 \\ \cdot & \\ \cdot & \\ \cdot & \\ T_a \\ / \\ T_r \end{matrix}$

① $\begin{matrix} \cdot & c^1 \\ \cdot & \\ \cdot & B^b \\ \cdot & \\ \cdot & E^b/c \end{matrix}$ - ② $\begin{matrix} \cdot & c^1 \\ \cdot & \\ \cdot & B^b \\ \cdot & \\ \cdot & E^b/c \end{matrix}$

(Also w/ B + C instead of B^b)

(add c³ tr)

From sketchbook (slap possibilities)

T

8

(B) ← osc.

+ B^b
(slower roll
+ B³ pop-ups)

"Winter"

8^{va} $\begin{bmatrix} b_2 \\ b_0 \end{bmatrix}$ intonation roll.
(beat effect)

- mp - t
- laser - y
- Firm v.l.
- Tight / steady
- Tremolo tongue + slap
- Airy w/ loose embu. + y + open throat

8^{va} $\begin{bmatrix} b_2 \\ b_0 \end{bmatrix}$ - mp

Slap.

sin

From archive box

T

8^{va} $\begin{bmatrix} b_2 \\ b_0 \end{bmatrix}$

osc.

B^b

C

(E.P. = 4, 1, 3)
as primary.
+ side-keys

- Natural overtones
- Extremely flexi.
- Voicing from A - y
- p - ttt

8^{va} $\begin{bmatrix} b_2 \\ b_0 \end{bmatrix}$

+ 8

+ C²

C²

T_{in}

From archive box

References: II Exploring the Territory of Multiphonics

¹ Morton Feldman, *Conversation between Morton Feldman and Walter Zimmermann* [Online] <http://www.cnvill.net/mfzimmr.htm> [accessed 2015, November]

² Poietic (and aesthetic) are terms used in semiotics to describe perceptive and productive levels, processes, and analyses of symbolic forms. [Online Interview] (Wikipedia) https://en.wikipedia.org/wiki/Esthetic_and_poietic [accessed January 2016]

³ “Poetics of Music”, King’s College London, the Britten Estate Ltd., the Institute of Advanced Musical Studies (KCL) [Online] <http://www.kcl.ac.uk/artshums/depts/music/research/proj/poetics/index.aspx> [accessed 2016, Januar]

⁵ Richard Murray Schafer, *The soundscape, our sonic environment and the tuning of the world* (Rochester: Destiny Books, 1994) p162

⁶ Jeremy Gilbert, “Becoming-Music: The Rhizomatic Moment of Improvisation” in *Deleuze and Music*, ed. Ian Buchanan and Marcel Swiboda (Edinburgh: Edinburgh University Press, 2004), p.131

⁷ Torben Snekkestad, *Winds of Mouth*, 2016 (ILK 250 CD/LP)

⁸ Torben Snekkestad, *Plateau*, 2016 (ILK 251 CD/LP)

3. The Reed Trumpet – a gratifying obstruction



“ ‘In everything that yields gracefully,’ G.K. Chesterton says somewhere, ‘there must be resistance. Bows are beautiful when they bend only because they seek to remain rigid. Rigidity that slightly yields, like Justice swayed by Pity, is all the beauty of the earth. Everything seeks to grow straight, and happily, nothing succeeds in so growing. Try to grow straight and life will bend you.’”¹

3.1 Background

In Norway, a majority of musicians in my generation started playing an instrument in a local concert band. An ensemble consisting of members of the woodwind, brass, and percussion families of instruments. When I joined one in 1985, I remember I badly wanted to play a) Trumpet or b) Drums. At that time (believe or not), one had to take a music theory course before being given an instrument to play. After a written exam, the girl and the boy with the best test score could choose their instrument – the rest was just handed one. Well, I was second best boy in the test and ended up with an alto horn. Needless to say, it was a disappointment. Nothing bad about alto horn, but this was an instrument at the bottom end of the ‘concert band hierarchy’ and how many professional alto horn players are there?

Nevertheless, for reasons I can't exactly remember, my ambitions changed into playing the saxophone. So, after a year with the alto horn (and some very loud and energetic backbeat eighths in marches) the director of the band spotted a talent in me and I was given the chance to play the saxophone. But, the idea of playing trumpet never left me. Ever since, I have been particularly fond of listening to jazz trumpet players and the instrument as always been fascinating and attractive for me.

Fast forward to 2010, I discovered Eddie Harris' "Free Speech"² album from 1969 in a vinyl shop in Copenhagen. On the front cover, he was posing with a saxophone and a trumpet. With a closer look at the picture, the trumpet was equipped with something that seemed to be a small soprano saxophone mouthpiece. Later, listening to Eddie Harris' trumpet playing on that album was quite a shock. Even though I did not particularly fancy the timbre of this hybrid instrument in use, I was surprised by the fact that it played in pitch over the range of over two octaves and had a sound surprisingly close to a conventional trumpet. Even though the sound was penetrating and harsh, the playing itself was pretty close to how Miles Davis played in the same time period. When using a single reed mouthpiece as a substitute for a conventional trumpet mouthpiece on a trumpet, the reed's vibrations replace the trumpeters summing of the lips. I assumed that the sound color of these different vibrations would make them sound radically unlike each other. Was it not too late for me to learn to play the trumpet after all, being able to use my saxophone embouchure skills on a trumpet? And why had I not come up with this idea before?

A week later I borrowed a Bb trumpet from a friend of mine and started experimenting with attaching different kinds of single reed mouthpieces to it.

3.2 First level of experimentation

At first, using a soprano mouthpiece seemed obvious. I manage to get some captivating multiphonics, high squeaks, and sub-bass sounds out of it, but the sonic possibilities were quite restricted in their expression. After all, I was searching for sonics that could go towards a full range register of the 'normal' trumpet sound, but still had other multiphonic textures to offer. Furthermore, I imagined a sound that was warm, round and breathy. After experimenting with both soprano, alto, tenor and baritone saxophone mouthpieces, as well as Bb and Eb clarinet mouthpieces – without a satisfying result – I realized that the mouthpiece's chamber probably had to be much smaller.



Fig 1. Original Eddie Harris reed trumpet mouthpiece

Doing some research on the subject (even though it is an area vaguely documented), I found out that Eddie Harris was the pioneer in the development and use of this hybrid instrument. He called it *reed trumpet* and had the US. patent on the mouthpiece. The mouthpiece itself is about half the width of a soprano sax mouthpiece and is mounted on a trumpet back bore. It was designed by him, with the aid of a USA based Selmer mouthpiece technician, in the late 1960's. The chamber design of these mouthpieces is sort of imitating the trumpet mouthpiece's cup, with a very tight bore going into the instrument. It has a high baffle facing and a large tip-opening

They later got into commercial production, but very few were made and even fewer sold. These mouthpieces were constructed to fit both trumpet, flugelhorn, french horn and trombone.

Eddie Harris also used the reed trumpet mouthpiece on flugelhorn (probably for the first time live) at The Newport Jazz Festival of 1970. This instrument can also be seen on the cover and heard on the live recording of that concert (*Eddie Harris – Live at The Newport*³). Throughout the 1970s, he also experimented with other new instruments of his own invention. He developed the saxobone (a saxophone with a trombone mouthpiece), experimented with double barrel clarinet joints and with bassoon bocal (neck) on the tenor saxophone, and he constructed a combination of guitar and organ (the guitorgan). He is also known for co-developing and popularizing the electronically amplified saxophone.

Probably inspired by Harris' work with this new reed trumpet instrument, the fellow American saxophonist Roland Rashaad Kirk is heard using one (with a Harmon mute) on the standard "Bye Bye Blackbird" from the studio album *The Case of the 3 Sided Dream in Audio Color* (1975)⁴. Not

really surprising, since both Harris and Kirk were known for being heavily devoted to multi-instrumentalism. To my knowledge, other than these aforementioned instrumentalists, there are few or no other recordings with the reed trumpet from that period (I will come back to that in a moment). After these first years of experimentation with and public exposure of the reed trumpet, it seems to vanish quickly as a novelty.

3.3 Secondary Level of Experimentation

Back to my own experimentation; I now found myself desperately searching for one of these original reed trumpet mouthpieces on the internet. I came across pictures of them, but unfortunately, none were for sale. I decided to try to reproduce one, with the help of Copenhagen-based saxophone technician Peter Jessen. He managed to make me a piece that was close to the Harris' piece, by only using photos of the original reed mouthpiece as guidance. The mouthpiece being finished, I experienced that it partly was able to produce pitches throughout the whole trumpet register (e.g. the middle trumpet register started to open up and could be controlled) It was astonishing to discover that the instrument was tuned exactly like a Bb trumpet with a conventional trumpet mouthpiece. With further adjustment by me; sandpapering of the facing and chamber, drilling the bore and experimentation with reed types and tip openings, it started to show some real potential.

Later, I got in touch with the mouthpiece refacer Keith Bradbury from *Mojo Mouthpiecece Work*⁵. I realized that he was also experimenting with reed trumpet mouthpieces. For him, it seemed to be a challenge of trying to copy the Eddie Harris mouthpiece. What he would musically use it for, was not clear, since he is not an active musician himself and the commercial interests for these mouthpieces have proven to be very restricted. The Bradbury mouthpieces I test played were not to my liking at all, even though they gave me some ideas for further development (e.g. wide tip opening to increase embouchure flexibility and to apply a very narrow throat/bore)

After a few months with the Peter Jessen mouthpiece, I finally succeeded in buying an original Eddie Harris reed trumpet mouthpiece on *Ebay* and the material exploration and sound investigation took a step forward again. Although, at first, I thought the timbre of the Harris mouthpiece was quite harsh and shrill, I managed to find ways to darken and thicken the sound (again trying to reface it and experiment with reeds and embouchures). It was, at least, much easier to control than my former mouthpiece.



Fig 2. Experimenting with mouthpieces and reeds for the reed trumpet, modifying the interior proportions of the mouthpieces and adjusting the reeds.

3.4 A final instrument set-up solution?

Still, not completely happy with how it responded and felt, or with the timbre it produced, I continued searching for the *holy grail*. (Saxophonists are known for being particularly obsessed with finding the perfect reed/mouthpiece/horn combination. Obviously a never ending quest). In this process, I learned about the Chinese double-reed trumpet (originally from the Middle East) and later reading in trumpet internet forums about some trumpeters, who were for pure fun experimenting with double reeds (e.g. oboe or bassoon). Hence, I got the idea of checking out if there ever had been made a single reed bassoon or oboe mouthpiece – at least, these mouthpieces had to have a very tight bore and fast vibrations?

It appeared that there was one American company (Runyon) producing single reed bassoon mouthpieces. (They were probably meant to service the multi-doubling theater musician). Luckily, I got hold of five of these mouthpieces (they have now stopped producing them), and even better, these mouthpieces sounded very close to my own visions of how this instrument could sound. I started practicing diligently, and along the way, I was constantly doing modifications on them (particularly opening up the tip-opening).

Because these Runyon single reed bassoon mouthpieces are made of poor plastic, I contacted the English clarinet and saxophone maker, Ed Pillinger, about reproducing one of them in a high-quality hard rubber material. In an email correspondence with him, discussing how we could

possibly get the mouthpiece to make speedier vibrations and attack response, he pointed out a very interesting difference between woodwind instruments and trumpet:

'In truth, speedier vibrations or the attack response is usually down to the nature and quality of the facing, But it is possible that the inability to give the mouthpiece a faster airflow is likely to be because the mouthpiece chamber reduces into a tight bore. Obviously, you have to have it made this way to work properly. I think it is worth remembering that wind instruments only require an oscillator (mechanical or electrical) to provide the excitation of the air column to produce sound.

It's quite hard to believe, but a trumpet can be made to work well without any air going into the tubing at all - vibration is all that is required. Players only have to blow harder to produce a sound wave with more amplitude to play louder. Airflow has little or nothing to do with it! This gives us a lot to think about don't you think?'"⁶

In particularly, Ed Pillinger's thoughts offered a more scientific argument for my persistent, intuitive idea of the importance of speedy vibration and attack as an essential quality a reed trumpet mouthpiece must have, in order to fully function in all registers. In any case, I now finally arrived at a satisfying single reed mouthpiece for my trumpet.



Fig 3. The current version of my reed trumpet mouthpiece., modeled and rebuilt from a Runyon single reed bassoon mouthpiece. Reproduced in hard rubber by Ed Pillinger. The mouthpieces can use both soprano sax and clarinet reeds.

While I, for the time being, feel content with this mouthpiece solution, I will probably not put my 'holy grail' mouthpiece search to a rest - after all, I'm a saxophonist. But I feel that I now have constructed a mouthpiece that has both the timbre qualities I strive for, the needed flexibility and feel. My attention the last year has been on learning more of the technical side of the trumpet itself, with less focus on the materials in use. Obviously, the learning curve as been steep, and I have to

admit that a lot of the research time has been devoted to practicing and getting to know some basic trumpet skills.

Some energies of inspiration and pure joy can't be stopped, and this is just how things sometimes go about. Maybe I'm not a researcher, but rather an adventurer? Nevertheless, it is a wonderful and cutting edge challenge trying to master this hybrid instrument. I feel that my trumpet playing is slowly improving day by day, helping me to fulfill my visions of what it can do for me musically. It constantly contribute to fresh approaches and inspirations in my music and is now naturally integrated into my instrumental arsenal.

3.5 Why involve a trumpet in a project about saxophone multiphonics?

You could say that my work with the trumpet constitutes an entirely different approach to multiphonics than that of my main instrument, the saxophone. It felt like doing the saxophone multiphonic study backward: With the trumpet I first achieved the multiple simultaneous sounds, then tried to cultivate the instrument and control single pitch activities. From uncontrolled unconventional sounds to conventional controlled sounds. It has articulated some important aspects of the projects overall attitude and aesthetic considerations.

Particularly, it resonates strongly with the creative energy that arises from venturing into deeper and deeper waters of instability as an improviser. To lose control and incorporate the 'mistakes' in the process. Although I try to master the instrument (as I certainly also strive for in my work with the saxophone multiphonics) I'm not interested in having full demand over it. In my opinion, a complete determination of the sounds would leave the music drained of friction and possible poetics. Hence, the reed trumpet, in particular, functions as a gratifying obstruction in my research project. I could argue that the reed trumpet just organically grew into the project's landscape, making the decision to include it obvious – both from a methodological and artistic perspective. I have come to think about its role as an epilogue of the exploration of my acoustic instrument's sonics.

It came about in the intensive work with saxophone multiphonics where I tried out different preparations, yet still missed some sonics and technical feasibilities. It has to with imagining a specific sound and not so much with looking for the intrinsic quality (as discussed in paragraph 2.2). There were sounds I heard and tried to reach for that just could not be produced on the saxophone. This then was partly the reason that lead me to the radical reed trumpet concept.

Gravitating towards the trumpet might be understood as a result of almost wanting and demanding too much of the saxophone?

With the saxophone, one of the problematic, yet at times inspiring things, is that the sound is popping out from all the keyholes along its tube. Ergo, spreading the sound all around. Only when all of the keys are closed, the sound comes straight out of the bell. (Sound engineers know this all too well, when for instance recording a saxophone and piano duo live in the same room; there is frustratingly much of the saxophone's sound leaking into the piano's microphones). So, to be able to work with an one-directional instrument like the trumpet has been a totally new experience. Because the sound comes from one place, it facilitates and makes it easy to use mutes and other objects (e.g. metal plates, fabrics, water bowl) for preparation and manipulation of the instrument. (Even though it is not a part of this acoustic project, naturally it also makes working with electronic manipulation convenient). To be able to alter the sound of the instrument in this manner opened up a range of sonic possibilities I have not had before. For instance, it is possible to alter the multiphonics with objects in front of the bell, and by using the instrument's slides for glissandi and microtonality. Furthermore, applying different mutes on the instrument creates an illusion of the sound coming from separate rooms. Consequently, this expands my spatial and textural potential in performances. Despite the contrasting timbre the option of using a trumpet instead of a saxophone naturally gives me, it also makes new musical gestures available. It includes the possibility of:

- a)** circular breathing on loud distorted multiphonics.
- b)** a series of bass-heavy, yet soft multiphonics as well as moving between them with ease.
- c)** amplifying breathing and whistling into the tube by the bell (making them more distinct).
- d)** the before mentioned manipulation/preparation possibilities.

The reed trumpet furthermore highlights the focus and detailed work on embouchure issues, that is also such a paramount factor regarding playing woodwind instruments and particularly working with multiphonics on them. On the reed trumpet, tiny movement and adjustments in the embouchure has a large effect on the control of the pitches and the chances to isolate and sustain the intended pitch. Especially, the pressure on the reed and how much of the reed that is covered by the under-lip are important concerns. You have to be very active and flexible, yet extremely precise. It would be possible to argue that the trumpet is a more overtone-based instrument than the saxophone. Brass instruments use valves to help direct air in and out of the instrument, creating different pitches. Woodwind instruments require the use of keys alongside the body of the

instrument to vary air flow to create different notes.

The saxophone normally has about 23 keys, making many fingering combinations possible. The trumpet has three valves, so there are obviously more overtone possibilities on each fingering. Nevertheless, if I may return to the aforementioned book by Sigurd Rascher; *Top Tones for Saxophone*, there is a strong analogy between the two instruments. The important notion this book gives me, is to regard the saxophone as a closed tube, rather than a tube with open tone. Evidently, working with the saxophone more as an overtone based instrument. Studying the methods of Rascher, with the many exercises in it (especially on fundamental embouchure and ear training tasks) naturally helps when turning the attention towards reed trumpet playing.

My findings on the reed trumpet, have not yet found its way into my *archive box*. But they are however embodied in my playing with the use of an experimental improvisation and memorizing attitude. I think I would like to keep it that way.

Have I become a better saxophonist during the intensive study of the reed trumpet? As with starting to play clarinet ten years ago, it brings another focus and perspective to the whole embouchure apparatus, which I feel has been enlightening to my saxophone work. But, still the most important thing for me has been that the trumpet is a strong catalyst of feeding different creative ideas into my music. I will deal with a more detailed insight into the music created with the reed trumpet music in the coming chapters.

3.6 Challenges

I look upon my work with the reed trumpet as being part of my fundamental attitude towards sound exploration on acoustic instruments – constantly searching and discovering new vibrating molecules. There are, however, some particularly complex challenges I constantly struggle to work my way around. It particularly has to do with isolating and controlling pitches in certain registers (e.g. between Bb - C, Bb1-B1 & C1, F2-F#2 - concert pitch) It seems like there are some frequency areas that speaks less easily than others, and it remains a challenge to control them. Notably, this is an issue in ascending legato phrases and force me to slightly attack (tongue or diaphragm). Unfortunately, trying these problems out on different mouthpieces and trumpets, the difficulties remain the same. Using a reed makes tonguing more difficult, and there is naturally a slower attack response. The conventional trumpet mouthpiece will always be able to perform very fast, accurate and virtuosic staccato phrases. Furthermore, it is harder to reach for extremely soft and loud dynamics with reed, especially in the middle register. To fade down elegantly in that register is

hard. In this manner, you could claim that the sound's overall envelope works quite differently than on a saxophone, particularly the attack and the release.

Despite these challenges, it still amazes and puzzles me that all these things are achievable at all! Since this is such a new area, I don't know to what extent it is possible to control the instrument further – what the real limits are. This suspense, and the fact that the horn opens up new paths all the time turns this fresh exploration into an exiting journey to be a part of.

3.7 A largely untapped area

To my knowledge, there are very few players that make use of trumpet with a single reed mouthpiece (whether you call it *reed-trumpet*, *saxo-pet*, *prepared trumpet*, *extended trumpet* or something else). Despite the previously discussed reed trumpet pioneers, the American trumpeter Nate Wooley suggested (in an e-mail correspondence) that both the trumpeters Leo Wadada Smith⁷ and Ed Harkens⁸ might have used a version of it on separate records with Vinny Golia and Betram Turetsky. (Even if the information about the recordings instrumentation do not reveal this use and furthermore it is sometimes hard to differentiate the trumpet and woodwind on this record, this might be true.) There is, however, some online documentation of Baikida Carroll using trumpet with saxophone mouthpiece on a series of AACM (Association for the Advancement of Creative Musicians) solo concerts in 1977⁹. Around the same period, Leslie Dalaba told me, in an e-mail, that she was exploring all possible sounds from the trumpet, and fooling around with different mouthpieces was one avenue. She ended up sticking to trumpet parts, not making hybrids.

Some years ago, I met with trumpet player Peter Knight from Australia when he was visiting Copenhagen as part of a longer solo tour in Europe. He regularly uses a clarinet mouthpiece on a flugelhorn and calls it prepared flugelhorn (e.g. on his solo album *Allotrope*¹⁰) I also have played with the Norwegian trumpeter Arve Henriksen on numerous of occasions in Trygve Seim's ECM ensemble. He sometimes uses a soprano mouthpiece attached to his Bb Trumpet to create bass - drones and high-frequency *squeaks*. Other than that, the only players I know of, who presently works with single reed mouthpiece and trumpet, is Mazen Kerbaj from Beirut in Lebanon and Liz Allbee – an American musician currently residing in Berlin. In an e-mail correspondence with Kerbaj, he revealed that his set-up consists of a cornet with alto or tenor sax mouthpiece, which he sometimes lengthen with a garden hose. This set-up can be heard on his "Songs for Evan" (Part 3 & 5) a solo trumpet track on the *Beirut Incognito* compilation from 2001¹¹. (The title might suggest a clear reference to Evan Parkers multiphonic universe, using circular breathing and chaotic

fluctuations?) Liz Allbee works with all kinds of trumpet preparation, manipulation, and extensions. She sometimes plays the trumpet with a generic alto saxophone mouthpiece, with either a regular wooden reed or a reed cut out from standard plastic packaging, taped on about halfway. Outside the trumpet field, the American trombonist Dave Whitwell is working with similar ideas with an alto mouthpiece attached on his trombone and the French composer and trombonist Vinko Globokar have also been using single reed mouthpieces in some of his works. Finally, of the people I know of in this field, there is Jay Rozen from New York, exploring the possibilities of saxophone mouthpieces and tuba.

All of these players have a brass instrument as their main instrument, although Mazen Kerbaj played saxophone for a while. The sonics they reach for with the single reed mouthpiece is certainly interesting in their context, although I miss a higher degree of versatility in their use of the instrument. All of them are mainly working with pitch distortion of some kinds, as well as explorations in the bass register. They don't make use of conventional pitches, and they all have a pretty restricted register range and little dynamic flexibility. Except for Kerbaj, they rarely touch on the more adventurous multiphonic potentials of the hybrid instrument. I assume it would require extensive single reed mouthpiece blowing skills be able to achieve that, which naturally from brass players is asking a lot. Add to that, my experience using a regular soprano, alto or Bb clarinet mouthpiece on the trumpet, suggest that it is not possible to get control over the middle register at all, and the possible multiple sounds you can explore are few.

So, turning the attention towards my reed trumpet peers, the possible inspirational sources is very restricted, almost nonexistent. However, there are of course fantastic trumpet players out there that have given me new perspectives and inspirations. First and foremost, Alex Dörner, Nate Wooley, Herb Robertson, Eivind Lønning, Taylor Ho Bynum, and Peter Evans have recaptured my attention and made me listen with a new awareness to the details of their playing, particularly their use of unconventional techniques. I also assume that I have picked up a lot of different trumpet approaches (e.g. sound colors and phrasing) while listening to trumpeters such as Don Cherry, Per Jørgensen, Jon Hassel, Miles Davis, Chet Baker, Leo Wadada Smith and Sei Miguel.

A well-known method learning the jazz language, is to play along with records of some of the greats. Learning solos by ear and perhaps also transcribing them. I did this quite often when I started my autodidactic jazz saxophone education, and now I'm rediscovering this approach on my new instrument, the trumpet. Indeed, a fruitful way to learn about the expressive possibilities and my limitations as a player. Imitation, assimilation and finally innovation, as trumpeter Clark Terry presumably once said.

During the time of my research I have had the pleasure of playing a couple of free improvised duo concerts and having engaging “trumpet talks” with two of the most innovative and technical skilled trumpet players around; Peter Evans and Nate Wooley. Experiencing my reed-trumpet in these highly challenging settings has been truly rewarding and helped me immensely to work on further aspects of my playing, as well as to contextualize it. Too me, nothing can substitute the live performance in getting in touch with the instrument and to feed ideas for further areas to explore. The concert with Nate Wooley (at the Copenhagen Jazzfestival 2015) was recorded and will be released in autumn 2016. Furthermore, I also did a duo concert in New York (November 2014) with the before mentioned reed-trombone player, Dave Whitwell. The focus here was also on free improvisation, but since both of us also have a solid grounding in contemporary classical music, we have made plans to collaborate with different composers to write pieces for us with this rare instrumentation.

3.8 Repercussion

I have embarked on an exciting journey with the reed trumpet. Pure curiosity, passion and joy have driven me towards constantly developing my technical control over the instrument, constructing a useful mouthpiece and exploring the sound resources that it is possible to reach for. From the first peculiar sounds with a normal soprano mouthpiece to finding a solid mouthpiece solution and being able to control the pitches to a degree that I now have a broad palette of feasible sound. I can more or less control normal conventional pitches in 2 1/2 octaves and reach for a vast number of multiphonics and sub-bass sounds. All these sonics can be further broadened by different preparations, such as mutes, water bowls, and metal plates. Given the uniqueness of the reed trumpet, I’m intrigued to experience to what extent I can push this development further. Hopefully, other woodwind and brass players will join me on this path in the future.

The decision to include and explore this hybrid instrument is paradoxically the most truly inventive part of my research. It was not even part of the project from the beginning. I have personalized it, expanded the sound color and technical possibilities, and constructed my very own mouthpiece for it. The exploration has been a research into a largely untapped area and surely represents a captivating foray into the realm of the unknown.

Working with the reed trumpet sparked my imagination to such a degree that I decided to record a whole solo album with it. I believe my recording, *The Reed Trumpet* is a unique contribution to this instrument history and to my knowledge it is the first full-length solo album to feature it.



Torben Snekkestad at Ibeam - New York (photo by Peter Gannushkin)

References: - The Reed Trumpet - a gratifying obstruction

¹ Igor Stravinsky, *Poetics of Music in the Form of Six Lessons*, (Harvard: Harvard University Press, 1970), p. 54.

² Eddie Harris, *Free Speech*, 1969 (Atlantic SD1573)

³ Eddie Harris, *Live At Newport*, 1970 (Atlantic SD 1595)

⁴ Roland Rashaad Kirk, *The Case Of The 3 Sided Dream In Audio Color*, 1975 (Atlantic SD 1674)

⁵ [Online]: <https://www.facebook.com/mojomouthpiecework/videos/10150166802939307/> , Keith Bradbury playing a reed trumpet [consulted 2015, November].

⁶ email correspondence with Ed Pillinger

⁷ Wadada Leo Smith / Vinny Golia / Bertram Turetzky, *Prataksis*, 1997 (Nine Winds Records – NWCD0199)

⁸ Ed Harkins, Vinny Golia, Bertram Turetzky, *Glossarium*, 1998 (Nine Winds Records – NWCD0209)

⁹ [Online]: <http://bells.free-jazz.net/bells-part-one/the-mapenzi-solo-series/> , review of the mapenzi solo series by Henry Kuntz [consulted 2015, November].

¹⁰ Peter Knight - *Allotrope*, 2012 (Listen Hear Collective)

[Online]: <https://www.youtube.com/watch?v=kQgP61HavwU> , Peter Knight playing flugelhorn with Bb clarinet mouthpiece (place and date unknown) [consulted 2015, November]

¹¹ Mazen Kerbaj, *Songs for Evan (Part 3 & 5)*, from the compilation Beirut Incognito, 2001 (La CD-Thèque) [Online]: <https://www.youtube.com/watch?v=hs5O9vOzEqM> , live version [consulted 2015, November]

4. Influences

*“Influences do not necessarily operate as cause and effect. However, to recognize affinities in viewing the record of what was made and how it was made, initiates responses and allows disparate fragments to come together in unexpected combinations.”*¹ (Richard Serra)

4.1 Here comes everybody

The capacity of creating is difficult to achieve in a vacuum. Influences and inspirations come from everywhere; from working close with a musical instrument (and getting ideas directly from that source), to inspirations far away from it. In other words; ‘a zooming in and a zooming out’. Listening exclusively and inclusively to all the sounds existing inside and outside the musical domain, one learns to be aware of intriguing soundscapes created everywhere. One comes to understand one’s place within it, developing an understanding of how one fit into the larger, endless music of the world.

Concentrating deeply on a subject, like the saxophone’s sonics, causes endless analogies to collect around it. These could eventually start to affect the subject itself – positively or negatively. At times one is quite conscious of the influences and their contexts – even begging them to generate some inspiration. Other times it just happens without one even noticing it. In best cases, they represent a leap in one’s artistic practice. ‘Influences do not necessarily operate as cause and effects, as the American artist Richard Serra is saying in the above quote. It is a matter of how you respond to all the sources that can possibly inspire and influence you. To be able to find one’s autonomy within them. Then, impressions and curiosity can turn into gratifying surprises – leaps in one’s music could be waiting behind the next door.

The musical sources that motivate me and influence my work with the instruments and music are numerous: being involved in free improvisation, jazz and electronic music (the piano strings’ overtone structures, the trumpet’s split tones and use of the overtone series, the drum set’s texture and rhythmic patterns, etc.) Interpreting and listening to a vast amount of classical music, being captivated by composers like Feldman, La Monte Young, Lachenmann & Ligeti, as well as collaborating with composers in the contemporary music field. Experiencing the double bass’ (and

other string instruments’) textural use of multiphonics. Having an interest in ethnic music like Norwegian folk music, the polyrhythmic song tradition of the Pygmies and the Sardinian Launeddas (triple clarinet). Listening to and playing the Japanese wooden flutes Shakuhachi. The spirit burning in the music of other saxophonists, from John Coltrane’s ‘sheets of sound’ experiments, to Evan Parker and John Butcher’s further development into more advanced multiphonic structures. Finally, the analogue and digital electronic instruments’ freedom and endless sonic possibilities, the ever-changing environmental sonorities around me –trying to transfer part of these sonorities and conceptual ideas to my acoustic instrument.

And, I have not even mentioned my – at times – obsession with the spectral transparency of Gérard Grisey’s music, the elegant phrasing in Stan Getz’s tenor sax playing, the electronic (and later acoustic) spatial idiosyncratic compositions by Éliane Radigue, the contrapuntal and free floating balance between composition and improvisation to be found in the recordings of Jimmy Guiffre’s trio with Paul Bley and Steve Swallow, Shenai player Bismillah Khan’s energetic improvisational mastery, the projection and beautiful timbre of the classical saxophonist Daniel Deffayet and the overwhelming expressive and structural power in the music of Cecil Taylor.

Occasionally, I find myself deeply involved in a rigid study of certain influences, yet at times, they ‘merely’ resonate strongly with me on an intuitive level. Nonetheless, all of these sources (and many more) have sparked my imagination towards getting possible and impossible sounds to vibrate through my instrument - striving to get the sound of the saxophone to go in other directions (after all, it is a very distinct instrument and has a pretty heavy historical reference). How can it function as a ‘many-sided’ and subtle solo instrument within the acoustic format? Can the sound palette of the saxophone be further unfolded? I guess that’s what I initially, in this project, wanted to find out.

Sometimes the answer seems hidden inside the instrument – other times I have to look far beyond it. In my research, I have spent equal time concerning myself with this fluctuation between inside and outside. My multiphonic findings and the music I have constructed with them would not have existed without many hours of improvisation and experimentation with my instruments alone. However, the motivation and inspiration would not have been driving if I hadn’t also aimed attention at all the other sources that trigger my imagination and ‘inner ear’.

Some of the musical ideas that found their way into ‘The Poetics of A Multiphonic Landscape’, have come through working with other musicians such as Barry Guy (double bass), Koichi Makigami (throat singing and theremin), Nate Wooley (trumpet), Maja S.K. Ratkje (voice &

electronics/composition) and Agustí Fernández (piano), as well as many other musicians and ensembles I have been involved in during the years. Obviously also through listening to a lot of concerts and recordings from all kind of music fields and additionally reading about music and studying scores, improvisational strategies, composition, and concepts.

It is not all about organized sound though. Some ideas emerge from being interested and curious in things outside the music domain of course: Fine art, dance, theater, movies, literature, philosophy, and politics amongst others. Naturally, all other phenomena and human interactivity that surround me have an impact on me as a musician. How could it not?

I realize this chapter could take up a lot of space if I were to dwell on all of my influences. Instead, I will confine myself to one particular impact that surprisingly became a turning point in the project. It contributed to a different notion of my instrument's textural possibilities and ways of using them in musical events – particularly in terms of creating a spatial awareness.

4.2 Underwater sounds - diving for pearls

One day in late August, I was sitting with my saxophone on the lap, buried in deep, frustrating thoughts. The day before I had been playing a free improvised ensemble concert with some friends. During the performance, as so often before, I stumbled onto some interesting multiphonics. And now, while the sun intruded my studio room, I was trying to remember them and possibly explore them further. I struggled... they seemed particularly hard to unfold. The sonics that had been working so pleasingly on the gig were just not to be reproduced. 'Why have I chosen to involve myself in this intense and solitary investigations of such complex sounds?' I was thinking. I had a growing feeling of wanting to escape the whole nerdy path and find an easier route. Realizing that this probably would not be a particularly productive day, I decided to exploit the nice weather instead and ride my bike down to the nearby beach to wash off the disappointment.

Jumping into the water, I suddenly got a strong awareness of how the sounds below the surface resonated. I took a deep breath and kept my head under water, floating as quietly as I could, only listening. The mysterious impression it gave me somehow had a striking resemblance to some of the multiphonics that I was so captivated by.... A circular breathed sustained tenor multiphonic with minuscular variations in dynamics, small glimpses of high harmonics and a contour of slowly irregular trills. Furthermore, it was as if the weightlessness, the pressure on my eardrums and the feeling of having my lungs filled with air that also gave me the physical sensation

of playing the saxophone. Had I not heard these sounds long before I even had been thinking about learning to play an instrument?

Growing up in Nøtterøy, a small island in southern/east part of Norway, the ocean surrounding it naturally had an impact on me. Consequently, I always had a notion that my many oceanic impressions had a connection to my music and musicking somehow, but I was not entirely sure exactly how. Although audio memory is fickle, I clearly remember the sensation and how I had been listening, almost meditating, while being under water in my childhood. With your ears under the surface of the water, one can hear the sound of the pulse and internal rushes of blood, and the pressure on the eardrum. Surrounding it all: The sea, with its ‘free floating’ oceanic currents, creating asymmetrical rhythmic figures and shapes. Noise, transients, and harmonics that continuously undergo complex mixing in both magnitude and direction. Because of the density of water, sound travels almost five times faster in water than in air, creating a different and fascinating soundscape full of textures to be explored. Maybe these early listening experiences were the first time I experienced that natural processes could have a musical quality. That the strangest sounds can potentially turn into music with great emotional quality. They represent, at least to me, a sort of sensuous memory.

The sound we remember is often replaced in our memory by a more recent version of the same or similar sound. I assumed that, in my case, this was primarily the sound of the saxophone multiphonics and probably partly the reason I have always been so attracted by them. One turning point in my project was when I decided to take these ‘rediscovered’ underwater listening experiences and my holistic encounter with them to full fruition, to see where it might lead me. Suddenly I found myself by the windswept Danish shores, equipped with a hard disk recorder, headphones and hydrophones (water resistant microphones). In the same manner I had hunted saxophone sounds I now started collecting underwater soundscapes. It was as if a small river had led me to the ocean.

4.3 Field Recording

By starting to make underwater recordings, I found myself in a different artistic genre. That of the field recordist. Although I had not been working with field recording before, I had with great enthusiasm listened to the recordings of Chris Watson, so I was not a complete stranger to it as a listener. Now, however, I took up an interest in exploring other artists in this field as well as doing

some reading on the subject, particularly what is termed as ‘Music Ecology’. In a paper by musicologist Maria Anna Harley, she describes what that may imply:

‘..... music ecology or eco-musicology (appropriate even if awkward) attempts to contextualize music as sound and relate musical sound-material to other sonic realities, both natural – of the non-human organic and in-organic worlds – and technologically created. This approach highlights the sensory aspects of music-making: tactile textures, spatial dimensions, and timbral riches that, due to their diversity and abundance, evade unifying tendencies of theory-making. It also brings in a renewed emphasis on the links between nature and culture, seen not as opposites, but as permeating one another in a mutual relationship.’²

This field can offer a beautiful notion that eschews the separation between human and non-human environments. Furthermore, how it relates to the sensory aspect of music-making, resonates with my work in the project. Since I was captivated by underwater sound, I was especially drawn to the work of artists involved in that area (i.e. Yolande Harris’ *Swim*,³ David Rothenberg’s *Thousand Mile Song*,⁴ and Annea Lockwood’s *A Sound Map of Hudson River*.⁵ At first, I felt a bit unsure about this stepping out of my own musical zone, but my interest was still my acoustic musical instruments and how to challenge and expand the expressive possibilities of these, not using the field recordings directly in the music.

Maybe that will change at some point, but for now, I’m filtering my own field recordings through my acoustic saxophone playing, letting them represent pseudo imitation of selected oceanic soundscapes, or merely let them act as just notion of the possible spatial drama they could inspire me into creating. While doing field recording I get into a hyper-attentive listening mode towards gestures and movements that are in a dialogue with space and dramaturgically interact with the context. I sense a growing understanding, of being able to listen impartially to the whole space/time continuum of sound. I felt like I had opened up a treasure chest of new possible sounds to come out of my instruments. In that sense, I do not regard myself to part of the artistic field recording realm, but very much on the side of it, using it as a method.



4.4 A sonic realization of ‘the ocean within’?

Many of the pieces I have created during the project have been more or less inspired by my holistic work with underwater soundscapes ’ (e.g. *Plateau #3*, *South Abyss* and *Harbor Cry*). To me, they represent journeys into alternative aural dimensions, or perhaps more accurately; a sonic realization of ‘the ocean within’ since this is not about making a blueprint of some environmental happenings, they rather represent a deep intimacy of me expressing myself through them. The idea of taking inspirations from them interests me because they are evocative, still when they are taken outside its context. To me, they take on a magical and mysterious quality that I even don’t want to analyze in musical detail. But, I started hearing and discovering new ways of shaping my music, fresh asymmetrical rhythmic material to be exploded and a growing motivation to go beyond the technical issues and boundaries of my instrument. In the process, I had to dig even deeper into the acoustic possibilities hidden in it. They might particularly help me holding on to a spatial awareness in my performance, as an inspirational source for how I can use my instruments texturally. Furthermore, they offered a fresh perspective on how I could shape and structure my multiphonic findings into sonic landscapes, and enabling me to focus on the needed patience in this process – not moving too fast from ‘something’ to ‘something else’. To insist being in one place and investigate what’s happening there, rather than creating a linear narrative, which is something I often tend to do.

During a solo performance, there are times when I certainly also use the sensation of underwater impressions as an important contribution to the whole ‘field perception’, trying to exploit the entire space altogether – both sonically and visually. I found a striking physical similarity in blowing the saxophone to that of being under water with the whole body (the immense air pressure, hearing the nerve system and the rush of blood, the stressed pulse, the inner sound world versus the outer sound world, the pressure on the eardrum). I have tried to illustrate this sensation in a two-minute video clip of me diving into the water accompanied by an excerpt from a solo tenor saxophone piece, used in various PowerPoint presentations of the project.⁶

I have also begun to visualize some of the music I perform: Floating near the bottom of the sea, watching small movements in the sea-grass and all kinds of sea creatures occurring. These images can sometimes affect the sculpturing of sound events and musical gesture. The loneliness feels so total down there and resonates with the act of playing music alone. To be that conscious about the possible visualizing aspects in music performance is something I rarely have been working with before. I think that some fresh ideas towards creating graphic scores might be under way in the future.

As a little side-project, I started to collaborate with the Danish electro-acoustic composer/field recordist Hans Peter Stubbe Teglbjerg, which enabled me to dive deeper into some sonic aspects of water. Hans Peter is living in a small island, Fanø, in the western part of Denmark. During 2014-2015 we have played duo performances – creating pieces that mix my saxophone sounds with his electronic sounds and field recordings. For instance have we done a concert project in a public swimming hall (*Svømmestadion Danmark* in Esbjerg) with the audience floating around in the water, their ears underneath the surface and listening to our live performance through waterproof speakers. (The sound checks for these concerts are pretty outstanding; us swimming in the water, diving and listening to our recorded music). These concerts are something we plan to develop further, using public swimming halls as concert arenas and adjusting the music we create to suit these odd circumstances. This could be one of the possible new contexts for my multiphonic exploration after finishing this research project.

4.5 Coda

To listen to both naturally occurring and constructed soundscapes heightens consciousness of my relationship to the sonic environment, allowing me to rethink and develop attitudes towards the role of sound. Drawing all kinds of inspiration from the oceanic soundscapes have made it possible for

me to structure my music anew, increasing textural and spatial awareness as well as to enable me to sometimes get into an almost spiritual state of mind in performance. It has led me to reassess my own working methods. Perhaps even more importantly, it has opened up for me a connection between my personal saxophone explorations and the outside world.

I once heard that in Papua New Guinea, when a Kaluli song maker searches for a new song, he might camp by a waterfall or a running stream. All the songs in the world are contained in the noise of the water. The song maker listens carefully, sometimes for days, until he hears the voice of his new song.

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5. Solo

“Playing solo is as if surrounded by white – alone and naked.
Every single gesture becomes important.

An expanding place in time and space
even the breathy minuscule nuances of subtle sonics can flourish.
Sound particles unfold
traversing the spectrum from silence to noise.
A blank canvas
A freedom in the solitude.

The intense, energetic and focused situation.
Seeking a space between here and there.

Suspending ones habits and needs
mindful and present
becoming receptive.

A process, not a presentation.
A subject, not an object.

I'm surrounded by white, but not alone.

Heart and Mind
Self and Other

So here I am, seeking to uncover the hidden sounds in a conical tube.
Looking for new material to be found right there in the very making of music.
I whisper to my self that anything can happen – and it does only because I dare to try.
The quantity of work on the instrument, with the instrument, guarantees nothing.”

(sketchbook note - March the 12th - 2014)

Playing solo is one of my favorite ways of making music. Demanding, challenging and rewarding. It has the possibility of communicating an experience of singular intensity. To me, performing a full set of solo music has always been filled with both excitement and anxiousness. Luckily, the latter has more or less taken the role of being a positive energy that enhances the concentration and the creative flow in a performance. The moment when one suspends momentarily one's own needs, a flight

away from habits, not to rush but find time, and to open space, to become receptive.

When entering into the project I was particularly attracted towards finding a new path for my solo saxophone playing. After having solo experiences both as a classical saxophonist and as a creative improviser in that field, sometimes even intertwining the two approaches, I was interested in finding a more stringent focus and at the same time be able to work with the format extensively in order to enrich and enlarge my vocabulary. Working with multiphonics allowed me to have both wishes fulfilled.

5.1 Challenges

However intriguing the freedom and space available to one while playing acoustic solo saxophone or trumpet may feel, it also presents two considerable musical problems. Leaving aside that the saxophone and trumpet is constructed with standardised keys and valves which obviously represent a clear restriction in itself (i.e. to the intonation and fingering combinations), the limitation of the possible music I can create in this format has to do with the physicality of the saxophone and trumpet, and again how that consequently affects my own physical restrictions.

1. The lacks of sustain.

In comparison to what one might consider as the more standardized used solo instruments (e.g. piano and guitar), the saxophone and trumpet lacks sustain, in the sense that you can play a note, create a sound, and it carries on without having to maintain the physical input. With wind instruments, if you stop blowing, there's no sound. There's no getting around the inability to produce a sound while another sound is decaying. The only exception to this is in spaces with very long reverb, thus making it possible to overlap the sounds to some degree (*see chapter 6 for more on this*)

2. Physical restrictions

The consequences of the lack of sustain is that it can be quite demanding to blow the saxophone in lengthy solo performances. One has to consider what kind of musical material one can use in these circumstances. Playing long multiphonic passages with circular breathing can be particularly exhausting. This again can affect what kind of instrumental equipment one chooses to use. A wide opening on a mouthpiece with a

strong reed might drain you very quickly. Furthermore, the consideration on what saxophone type one uses might be taken into account during the performance, since different mouthpieces types will increase or decrease the pressure on the different embouchures muscles groups.

Consequently, a major part of the preparation for a solo performance goes into being physical (and mentally) ready to face the demanding situation.

There are of course all kinds of composition/ improvisational concerns that are an important part of the preparation for a performance as well and in the next chapter I will reveal what they might be.

5.2 Ensemble

Although the plan at the beginning of the project, was to mainly focus on solo saxophone, I also thought about involving some ensemble activity into the project, by doing some concerts with my multiphonic material used in combination with other instruments – possible also record a trio or quartet album. For most musicians, even if they do enjoy playing solo concerts, the main focus is on ensemble activities and all the explorative interaction between players this involve. For the improviser in particular, it is both a vehicle for self-expression and an exploration of relationships between players of similar or different background, aesthetics and musical thinking. To me, any ensemble activity represents a collectiveness and a conducive opportunity to learn from others – to be inspired by them and often as a consequence to be forced to rethink the musical language one uses and the way your are shaping it. There is a feedback loop that enables one to go back and forth from ensemble activity to solo activity and distract various musical ideas and material out of these experiences. Eventually the knowledge of these processes finds its place into one's solo playing and affects the pace and balance of one's music, sometimes also affect tiny details of pitch consideration and timbral characteristics.

Five months into the project, after involving a few ensemble activities into the project, I decided that it did not feel right. It just had to be within the solo format only that the music should be realized. Although, not excluding group playing altogether, I decided not to make an ensemble recording or not speculate too much on how my

multiphonic findings possibly could work in that context. I needed to concentrate completely on generating material and structuring it within the solo and gradually, also being concerned about how I could let these sonics take on a more principal role in my ensemble music. The sonorities simply asked for the possibility to grow and be expressed in a place that was not filled with other instrument's inputs. The space and all the frequencies in it should be empty and filled with my sound particles only and raise the spirit of them. Consequently, to give the level of focus on details in the sounds textures that I felt the music would need to be able to express my ideas clearly and personally. This concern just felt too important to ignore, and the fourth rule in my dogma was articulated and put into practice (see dogma, p.12).

Being an active and curious musician occupied with activities in numerous ensembles meant that I did not want to isolate myself for three years. I have of course been involved in group playing during the time span of the project, and also tried to integrate multiphonics whenever the context allowed me to. Especially the involvement in a series of duo collaborations, because of the very close interaction one can achieve there, has given me lot of things to think about. Eventually these thoughts find its way into my solo playing someday or another.

5.3 Electronics

I was in doubt whether I should include the use of electronic manipulation into the project at all. Here, as well, I had been absolute in my intention from the very beginning of the project; the investigation should mainly be about the acoustic sounds. I was not interested in all the opportunities that electronic software and hardware could offer regarding the manipulation of my sound to the unrecognizable. However, using loop-pedals (for overdubbing) or to trigger samples of my acoustic multiphonics might present some interesting possibilities—both live and in studio. If not to include an ensemble, I wanted to be able to make an ‘ensemble of me’ⁱ by putting together layers of multiphonics from my instrumental arsenal. Allowing larger blocks of multiphonic sounds to be superimposed into orchestral proportions. Furthermore this also makes it possible to bypass the mentioned problems of ‘lack of sustain’ and the physical restrictions, enabling me to produce a sound while another sound is decaying. It led me to experimentations with electronics in the first year of

the project, and included building my own loop program in *Max msp* and in *Ableton Live* connected with a midi foot-pedal, as well as using hardware loop-pedals and samplers. My experience applying this in live performance, was that it lacked intimacy in the communication. Even if it functioned to a certain degree, musically speaking, it took away the sensation of one man's interaction with the acoustic instrument, something I found to be very central to the overall attitude of the project. Even more importantly, it took away my detailed focus on the timbre and textures. When there was a microphone in front of me, cables and hardware on the floor and speakers at each side of me, something precious to the project got lost. I believe that the participants had a greater distance to the details of the musical material, possibly confused and too focused on where the sounds came from and how they were produced. Furthermore, using electronic equipment and sound systems made it harder to explore the pure acoustic potential of the concert spaces – and it is important for me to draw inspiration and interact with room's acoustic and the people in it. Hence the dogma rule 6 was manifested: No electronic manipulation is allowed - only use the pure sound from the acoustic instruments. (p.12 in introduction).

The idea of creating larger layers of multi-tracked instruments did not leave me, but instead found its place in one of the trilogies albums and not in my live performances.

References

ⁱ A term used by Ivar Grydeland in his research project "Ensemble and Ensemble of Me – What I Think About When I Think About Improvisation", as part of the Norwegian Programme for Artistic Research 2011-2016.

6. Trilogy

*“With me, the plan and the piece develop at the same rate. I don’t believe in making plans. In architecture you have to. If you build a house without a plan, it will fall down. But in the other arts, you don’t need one: those huge paintings by Brueghel, full of a lot of small figures, do they have a rigid composition? I don’t think so.”*¹ (György Ligeti)



Winds of Mouth

Plateau

The Reed Trumpet

The trilogy that is the final artistic result of my research project, share one common feature:

The element of improvisation and its open form is present in all the music created. My archive box constitutes a body of images that gives me the possibility to enter wide multiphonic landscapes. The emphasis is on the relations between the individual elements, their changes and how the structures unfold during improvisations. Is the music composed or improvised? I have to admit that I have a problematic relationship with how these terms often have been treated as opposites in the musical discourse. I consider all music to be composed (in the meaning ‘put together’), and in the process improvisation is obviously a part of that. If one claims that a composition is about a detailed notated score, my music on these albums are probably not compositions, but solely improvisations. So, instead of entering a lengthy discussion on improvisation versus composition, I will leave that to other research projects and others interested in that discourse. In this chapter, my concern is on revealing how I have created the music out of the extensive work being done in the process of gathering sonics in my archive box.

6.1 Dogma consequences

I have previously discussed how I have investigated the intrinsic quality of multiphonics as well as my own artistic intention to reach out for a particular ‘sound image.’ These two approaches to the sonorities are intertwined during both the study and the performative explorations. Referring to Dogma 8 (p.12), the music should try to be unconcerned by any stylistic affiliation – which of course is a utopia (as the many possible influences revealed in chapter 4 indicates). Even if this is not entirely possible, it has still been an ideal and an overall working attitude, thus allowing the use of my sonic findings to enter into an open space continuum without having the restrictions of fitting into a particular style or genre of music. Furthermore, in the compositional process, I did not make use of any other instruments as manifested in Dogma 6 (p.12). Practically, it meant that I did not compare, analyze or structure my sonics in comparison with a piano, guitar, tuner, software, or any other instruments other than my saxophones and trumpet. All the musical material was realized only through my own instruments – pitches and intonation were not checked or measured with the help of other instruments etc. This is not to say that I isolated myself totally to other sounds, as I have told in Chapter 4 – underwater sounds were used and conscious or unconscious musical influences appear in my music of course. Nonetheless, this is evidently a highly idiosyncratic, heuristic, and rigid approach. I believe it allowed me to come closer to the sonics’ inner quality and to a singularity in the music.

My intention was that the hunted and gathered sonorities, the further manipulation of them, and the structuring and shaping of them merges, where a new aesthetic balance of freedom of expression and formal consciousness can be reached.

6.2 Strategies of composition and improvisation

The music on the trilogy is created out of mainly three compositional strategies, with each one of the albums chiefly belonging to one of these strategies:

1. Free improvisation
2. Open form composition
3. Post-composed improvisations

(Non of them uses detailed notated material).

Free improvisation

It could perhaps also be called freely improvised, instant composing, or real-time composition. Nevertheless, this strategy, or one could say attitude, is the primary compositional tool used on *The Reed Trumpet*² album, yet it is heavily present in the two others. The starting point for many of the pieces with a free improvisation strategy can be a small instrumental technical idea, a certain instrument preparation, a vague idea of form or dramaturgy, a metaphor, a small conceptual thought or a musical fragment/gesture to start from, arrive at, and so on. I believe the playfulness, the occasional lack of control and the very freshness of playing the reed trumpet naturally led to a series of freely improvised pieces. The performances tend not to be burdened by a historical baggage that sometimes can weigh my saxophone playing down. Something I think is unavoidable when one has a long relationship with an instrument. I simply felt more free on the reed trumpet, and in the process was quite open to what came out of the horn and eager to interact and explore, without judging too much about the result. In short, I was able to be in the (improvisational) process while not being too concerned about the (compositional) result.

[Examples of free improvisations: all tracks on The Reed Trumpet album and *Periechon* and *Stellar Droplets* (from the Plateau album)]

Open form composition

On the *Plateau*³ album, I go back and forth between free improvisation and what I call ‘open form composition.’ I believe the latter strategy is chiefly a result of striving to create music for the saxophone that somehow could open new grounds and seriously also take on the underwater influences. I became aware that I had been working so intensely with the saxophone multiphonics that I had entered into a compositional structuring modus. In order to get the multiphonic findings embodied in my playing, I planned to introduce them gradually into performances. Since I wanted to avoid the use of all the conventional techniques, I constantly needed new multiphonic material to improvise on. Hence, I felt the need to structure my improvisations more, and tended to prepare more specific material for my saxophone improvisations than I would usually do. The challenge here was to still be able to sculpt them freely and not make too many decision in advance. I ended up using ‘open form composition’ as a strategy. Accordingly, some of the pieces have pre-composed elements of a particular ordering of multiphonics, or the improvisation might ‘dance around’ a series of multiphonics that somehow was aesthetically related. Nevertheless, I had the freedom of deciding to introduce any other imaginable material during performances, drifting in and out of the pre-planned ones. Gradually, as my box of embodied multiphonic sonics grew, I was able to improvise even more freely with them. But, the ‘open form’ compositions represent pieces that

can offer me an ‘anchor’ during a solo set now. If they are played freely enough, they exhibit music with a distinct character that I tend to like entering and explore.

[Examples of Open form composition: *Plateau #3* and *Sulphur Harmonics* (from the Plateau album)]

Post-composed improvisations

The *Wind Of Mouth*⁴ album is created in what I term as ‘post-composed improvisations’ – one could also call it ‘post-edited improvisations’. In these pieces, I would think that the composer in me is at full work. Moving away from making split-second compositional decisions to taking all the time I need to organize the material. It is carefully constructed pieces with a lot of editing, cutting and form building considerations. It was also an album that took a lot of effort during the recording sessions and in the mixing/editing process. The album is, as I have talked about, a realization of an ‘ensemble of me’. I wanted to work with dense layers of multiphonics, and in the process I recorded a vast amount of improvisations and constructed a sort of sampling library. ‘With me, the plan and the piece develop at the same rate’ says Ligeti in the opening quote of this chapter. This is true of the pieces composed here. The process was directed by improvisations, trying out different material in a very intuitive way. Moving back and forth from improvising while recording - in order to capture what I intuitively do - then stepping back and analyzing and codifying those moments, that strikes me as interesting and filled with potential. Sometimes also the improvising was initiated by a particular concept, vision or idea. Gradually they started to grow into longer pieces of music, put together in sequences of musical events created in the moment. In some cases, recorded again when the overall compositional structures felt clearer to me. All the time I was reacting spontaneously to the material already recorded, building layers of sounds. Afterwards, I started taking away, altering and adding more to the recorded material, and finally shaping them into whole pieces.

[Examples of post composed improvisations: *Harbor Cry #3*, *Winds of Mouth* and *April Flourish* from the Winds of Mouth album)]

6.3 Textures, Structures and Form

The musical material that is the foundation in the music is the techniques discussed in details in Chapter 2 and Chapter 3. As I have explained, these techniques often directly initiate ideas for both texture, structure and form. The list presented here is what tends to trigger me and are widely explored in the recordings:

- Multiphonics played with polyrhythmic fingering structures, separating left and right hand. Consequently, creating a quasi polyphonic impression. (Variable speed and with very flexible embouchure, creating a wide frequency spectrum)
- Multiphonics - isolating one single sound, which often creates a very different timbral quality. These are used mainly as a direct inspiration from wooden flutes (like Shakuhachi) Breathy, transparent and also have contours of barely audible harmonic particles.
- Multiphonics soft, very airy timbre (contours)
- Multiphonics for noise/distortion
- Multiphonics for punctuation.
- Multiphonics with further manipulation adding all possible instrumental techniques. (superimposed)
- Preparation of the saxophone: water bottles in the bell, silverpaper in front of bell etc.
- Multiphonics creating specific harmonical and/or melodical structures (finding tonal and harmonic connections between them)
- Multiphonics with drastic character change by embouchure positions and/or by applying different dynamics.
- Development of an aesthetic syntax that pulls series of sonics coherently together.
- Using circular breathing to create lengthy timespans (uninterrupted sounds) with variations in the textures and structure.
- Multiphonics with spatial focus – slow textural variation using different pressure on reed, tongue positions, attacks and oscillating keys (enharmonic trills etc.)
- Reed Trumpet: the use of trumpet mutes and other objects: metal plates, fabrics, water bowl.
- Reed Trumpet: breathing and whistling into the tube amplified by the trumpet bell (white noise texture).
- Reed Trumpet: bass-heavy, yet soft multiphonics and the ability to move between them with ease.
- Reed Trumpet: Loud distorted multiphonics for long circular breathed phrases or for punctuation.

In structuring and shaping the musical material created through these techniques, I work very intuitively. By the same token, I will not go into the details regarding my specific compositional tools, but rather reveal some major concerns.

My main interest in the improvisations and compositions is to create a purpose of each sound event and finding the right placement for them. I realize that I have a strong desire of wanting to create a narrative in my music and musicking. To be concerned with how the different sound events enter into a dialogue with each other, moving from something to something else and in the process focusing on the transformation phases of these. Either the transformation involves a gradual development, or have a more abrupt character. In both cases, the music primarily has a temporal focus. I enter into different musical situations and explore the connections between them. The contrasting material here could be different structures and parameters of pulse and rhythmic characteristics (meter, rubato, small or larger cells of rhythm, polyrhythms etc.), the overall duration of the events, different dynamics, dissonant or consonant melodic and harmonic pitch considerations and the density and range of these, timbral qualities, or every kind of articulations and playing techniques that produce different expressive results.

However, working with multiphonics, a musical material so rich in texture, I got increasingly attracted to go against my former tendency of entering into a temporal and narrative focus in the music and instead be more concerned about the spatiality. Instead of a restless motion from one musical zone to another, I got more occupied with working in one zone and exploring what can take place inside it. Not restlessly leaving it to create a direction in the music, but staying within it and patiently investigating the possibilities of subtle variations of dynamics, textures, small rhythmical elements, oscillating between neighbouring frequencies in the pitches and so forth. Letting these elements slowly interact with each other, sometimes creating repetitions with small mutations or freezing them, enabling a more static character to arise. To achieve this, I had to accept that the dramaturgical sequence of events were stretched out in time, allowing me to meditate on the sounds. I believe that this focus on spatiality was a natural consequence of nourishing and exploring the details of timbre and textures in my multiphonic material and drawing inspirations from the peacefulness of some of my underwater recordings.

The music on the recordings and in live performances balances between these temporal and spatial structuring and form shaping approaches. I have by no means rejected the narrative as such, but allowed myself to move between the musical sequences with more slowness and creating longer timespans of each sound events in my solo playing than I did before.

6.4 Recording, mixing and mastering

All the music on the albums were recorded in Denmark during the last part of 2015 and at various locations in Copenhagen and Sønderho. If the room I perform in has a very long reverb, that naturally makes it possible for the sounds to keep resonating in the room after I stop blowing the horn, enabling me to some degree to build layers of sounds in a very different way than in a total dry acoustic space. My music needed something in between. The places I chose to record in offered me an acoustic that was modestly reverberant and quite warm sounding, yet still made it possible to present any kind of musical material in them, from silently breathy sounds to punctuated load bursts without spinning the sounds around the room too much.

In Copenhagen, I had multiple sessions in two churches nearby my home, Sund Kirken and Philips Kirken. I had two recording sessions in the beautiful, peaceful island Fanø and its inspiring southern village, Sønderho. The rooms here were Sønderho Kirke and in Sønderho Forsamlinghus. Although the acoustics in all the mentioned places were quite similar, they had their small differences as well. To be able to use the particular acoustics in a room is something that is important to me. In improvised settings this is something that feels exciting to explore, drawing inspiration to how the room ‘speaks’ to you. Entering into a dialogue with the space so to say. It often alters how I work with a certain musical material and contribute to the shaping of the music. In live performances, both the room and the participants in it naturally informs my improvisations, to a degree that notated composition never will be able to do (if they are not written as site-specific compositions). I should also mention that on the *Winds of Mouth* album, I did some recording in my studio, exploiting a dry acoustic that was useful for some of the extensive, dense layering of the sounds.

All the recordings were made by me, using a ribbon microphone, microphone pre-amplifier, and analog/digital converter into the computers software recording program. I used approximately the same distance to the microphone and the same gain level throughout all the recording sessions. Most of the editing was also done by me and was then brought to Andreas Mjøs for further mixing.

In the mixing session, the recordings’ sound quality was optimized, some reverb was added to give the whole album a more homogeneous quality. In the case of the ensemble pieces in *Winds of Mouth*, the dynamic level was adjusted, and panning was added to offer more depth to the mix. Finally, the music was mastered by Helge Sten to optimize the sound to the different formats (CD, Digital, and LP). (Rigidly, one could claim that this way of mixing and mastering the album

somehow conflicts with Dogma rule 6 (p.12 in the introduction) not allowing any electronic manipulation. But then again, I have not altered the pure acoustic sounds other than adding some reverb and optimizing the sound quality to have it presented neatly in the record format).



6.5 The music recorded

Analyzing my music in detail would require transcribing my many improvisations, which probably gives little meaning, neither to me nor for others. On the other hand, I believe I have already revealed a lot about the process of working with the musical material in use, as well as my motivation, influences, philosophy and glimpses of strategies and structuring parameters applied in the music. Here I will more loosely and briefly tell about each piece of music on the *Plateau* and *Winds of Mouth* albums and furthermore make some general notes on the *Reed Trumpet* album. All comments are based on what I remember being the concerns and inspirations at the time of creating them, with the help of using some of my notes scribbled during the recording sessions and at rehearsals upfront.

Torben Snekkestad – Plateau (ILK250LP + ILK250CD)



Line-up: Torben Snekkestad: Tenor & Soprano Saxophone

Plateau #3

The “Plateau #3 is part of a series of pieces (Plateau 1-6) for solo tenor saxophone and has a special status in my production. Hence, this is the title of the record and also the first track. The textures and the structure of this piece is very much a result of underwater explorations and draw inspiration from these in every sense. The structure of these pieces is quite strict regarding the multiphonics in use, but the ordering of them is not. The shaping, coloring and length of them is freely interpreted. It is not a matter of traveling from one place to another, but uncovering the destination inside the point of departure. I think my playing and imagination can flourish in these pieces and they never feel like a closed system.

Stellar Droplets

A freely improvised piece that has a rhapsodic structuring and explores contrasting material arrived at by using a wide range of instrumental techniques: Poly-rhythmic finger structures, distorted circular breathed multiphonics, complex glassy sonics with contours of air, slap double and ‘tremolo’ tonguing.

Sea Meets Shore

The piece might be described as a move towards the borders of transparent sounds and pianissimo high pitch, on the verge of creating direction, surrounded by silence where the small timbral nuances and the white noise quality of air travelling through the saxophone tube reigns. My concern here was to let each musical event breath and reveal fragments of small shakuhachi inspired melodies (with the use of glissandi, vibrato, and using an ‘under-blowing’ technique as well as isolating multiphonics fingerings into more or less a monophonic sounds) “In silent gaps, the water quietly greets the shore, disappearing in the sand.”

Periechon

The title can loosely be translated to mean “that which surrounds.” To the greek philosopher Aristotle this was a relational epistemology in which form is not altogether intrinsic to an object, but is given by that which surrounds it. Technically this piece investigates the possibilities of an idea that have first been embraced and developed by Evan Parker. Using poly-rhythmic fingering structures on multiphonics, separating left and right hand and in combination with circular breathing. Thus creating an uninterrupted flow of densely-textured sounds which can be described as “an illusion of polyphony”. My focus in this piece was on the dissonant and distorted textures –

tiny melodic figures spinning through hectic patterns dictated by rapidly multiphonic fingerings - fluctuating between different frequency regents. There is an underlying hectic and irregular pulse in all the sound events. Furthermore, in the first part of the piece, I make use of a very fast triple tonguing technique which I call tremolo tonguing or split tonguing and also use my knee as a mute to create high pitched distorted sonics in the process saturating the music with elements and energy from free jazz.

Sulphur Harmonics

The question I asked myself here was how I could possible use a series of multiphonics as a lengthy harmonic progression that was not too occupied being repetitive. Even if the harmonies here are not fitting into a perfect equal temperament, I believe they are mostly perceived as being chords rather than complex abstract multiple sounds. The connection between the pitches in the chords creates 'inner melodies' with contours of something vulnerable and almost rusty. This concept of linking multiphonic sounds with melodic elements is something I have heard John Butcher use in his solo playing. The piece has a quite strict compositional structure and a clear dramaturgical form. Still, each harmonic sequence can be played in different orders and length.

Torben Snekkestad - Winds of Mouth (ILK250LP + ILK250CD)



Line-up: Torben Snekkestad: Tenor & Soprano Saxophone, Reed-trumpet, Slide Trumpet, Clarinet, Water bowl

April Flourish

In the process of trying out different sorts of attacks followed by a 'forte piano crescendo' effect on reed trumpet, I recorded all these attempts on multiple tracks. My idea was to combine one or two of them with a specific tenor sax multiphonic I had in mind. Letting the reed trumpet and tenor sax blend together as one. By mistake I forgot to mute the recorded trumpet tracks when I was interested in hearing only one of them. Listening to them together, by pure coincidence, started the whole piece and I worked very quickly and intuitively in the process. I added a series of soprano multiphonics and distorted reed-trumpets creating a cascade of sounds by multi-tracking 5 trumpets and 4 soprano saxophones. These events then move into a texture of quiet, sonic layers that in spite of being very dense, still enable the sounds to breath. This soundscape slowly increases in volume and intensity, at its end returning back to the beginning part of the piece.

South Abyss

This piece exemplifies everything in how underwater investigations led to musical ideas. Although not being a blueprint of a field recording, the stretched out structures, the floating rhythmic elements, and the textures here are directly inspired by an underwater recording from Amager Strand Park in Copenhagen. Minimalistic use of a few transparent soprano multiphonics, creating glimpses of melodies on the overtones, a cluster tenor multiphonic leading into three more spread tenor multiphonics with trills supported by bass tones from a reed trumpet. A meditation on turbulent flow.

Winds of Mouth

A narrative with zones of spatial awareness. Taking inspiration from the large steel sculptures of Richard Serra: Massive and almost aggressive at first, coming closer they reveal intriguing organic textures on the surfaces. This piece is constructed of three parts, presenting very different compositional structures and textures. From a drone of single soprano multiphonic alternating with an almost shenai-like quality in timbre with an instable cluster, allowing myself to play purely soprano melodic material, blocks of tenor, reed trumpet and soprano multiphonics, tenor multiphonic drones with bisbigliando oscillations in combination with harmon-muted reed trumpets lines, a series of distorted tenor multiphonics and dense layers of trumpets breathing and whistling into the tube.

Harbor Cry

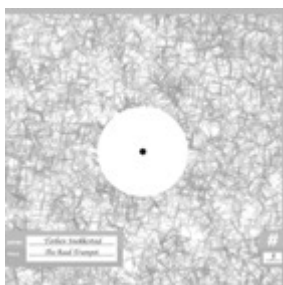
There are five strands that informed the making of this piece: Wanting to create an acoustic piece of music that could be mistaken for being an electronic one. Letting an expanded arsenal of instruments (slide trumpet and clarinet) be presented with all the possible multiphonic sounds, instrumental techniques and preparation to be included in a wide range of combinations. John Zorn's solo albums "The Classic Guide to Strategy" (with alto saxophone, duck calls and water bowl). The textures from the kitchen sink in Philip Corner's composition "Lucida's Pastime". Finally, an underwater recording of the Tokyo harbor, which I will leave up to one's imagination to how busy sounding that is.

Conque Duologue

*"Vibration is color as well as motion. Language is poetry as well as rhythm.
Intervals become as leaves waving in the wind".⁵ (Adam Rudolph)*

A semi active contrapuntal dialogue between two whispering soprano saxophones. Exploring a series of soft multiphonics on the brink of being single pitches. Interrupted by a deep reed trumpet before ending the duologue in a coda ... (to be inside a sound is to be inside time?)

Torben Snekkestad – The Reed Trumpet (ILK252LP)



Line-up: Torben Snekkestad: Reed trumpet

Given the character of a highly freely improvised attitude in all these pieces I will only give a generally comment here for all the pieces. The album consist of eleven rather short pieces that explore both the multiphonic material in depth but also make widely use of more conventional melodic playing . (Yes, I am aware that I have stretched the first dogma rule (p.12) here.)

The pieces all have number titles, reflecting the etude-like approach that each one of them shares.

I was interested in exploring different instrumental techniques and preparation in each improvisation. These were: all sorts of multiphonics, sub-bass, tonguing (slap, flutter, double, tremolo), removing valves, harmon mute with or without stem, cup mute and using different objects as mutes (thin metal plate (35cmX50cm) compact disc, fabrics and water bowls).

In these improvisations, one could say that, more than ever, my intentions and structural thinking were confronted by reality.

01 : FIRST	2 : 38	07 : SEVENTH	2 : 20
02 : SECOND	5 : 36	08 : EIGHT	6 : 09
03 : THIRD	4 : 29	09 : NINTH	3 : 02
04 : FOURTH	6 : 01	10 : TENTH	4 : 09
05 : FIFTH	3 : 07	11 : ELEVENTH	3 : 13
06 : SIXTH	4 : 20		

References - Trilogy

¹ György Ligeti, *Prelude for pygmies* - György Ligeti interview by Tom Service in *The guardian* , 2003 [Online] <http://www.theguardian.com/music/2003/oct/17/classicalmusicandopera> [consulted 2015, December]

² Torben Snekkestad, *The Reed Trumpet*, 2016 (ILK 252LP)

³ Torben Snekkestad, *Plateau*, 2016 (ILK 251 CD/LP)

⁴ Torben Snekkestad, *Winds of Mouth*, 2016 (ILK 250 CD/LP)

⁵ Adam Rudolph, review; *Nadine Shank plays Piano Sonata No. 2 by Yusef Lateef* [Online] <http://www.yuseflateef.com/YALRecords/sonata2.html> [consulted 2015, December]

7. Epilogue

"Living is a form of not being sure, not knowing what next or how. The moment you know how, you begin to die a little. The artist never entirely knows. We guess. We may be wrong, but we take leap after leap in the dark." (Agnes DeMille)

Naturally, being so deeply involved in a research project over a period of three years, there are many subjects I wanted to unpack the implications of. I decided to focus on some of 'the leaps in the dark' as Agnes DeMille articulate it. Perhaps, even, now and then turning on the light, so to speak.

I wanted to write about what has been the most significant leaps and concerns to me, without totally detaching from the context I'm operating in. Evidently, I have kept the project as close to myself as possible, which I moreover believe is a privilege one has in an artistic research project and in the writing of an artist's text.

Nonetheless, the project is ideally a valuable contribution to the 'multiphonic future' of the acoustic saxophone. With the rigorous approach of only allowing multiphonics to be the raw material of the music produced, I believe I have created poetic multiphonic landscapes, which, to me, are unmistakably personal. In the process, I hopefully have been able to take the sonics to places they might not have been before.

The project has given me an insight into the possibilities of sonic manipulation, as well as working with an awareness of the sonics' intrinsic qualities. An impulse to go beyond the notion of being just someone that was unwilling to accept the constraints that conventional practice might impose upon his or her instrument. Ideally, the project will serve as an inspiration both for the improvising and the non-improvising saxophonist as well as other wind players. Particularly on the use of multiphonics, but also for the use of unconventional techniques in general as well as for showing a method that is both concerned about the instrumental technical details and the broader context of music as art. Furthermore, a discourse on multiphonics is offered the non-performer composer and might open up for a nuanced understanding of the singularity and complexity of this material.

I have stated that my, initially unintended, work with the reed trumpet is paradoxically and probably the most inventive part of the project. My exploration and development of it, and in the process recording a full-length album, is something sonically new and furthermore belongs to a

largely untapped area. Further development, both from others and myself, will be exciting to monitor.

It should be clear which context I have been working in and that I'm not alone being captivated by saxophone multiphonics. Given the highly complex quality of the saxophone multiphonics, these sonics are far from exhausted, and it will take a lifetime to explore them in full depth – probably several lifetimes. Nevertheless, the closest peers in this project (from the pioneering work of Evan Parker to John Butcher, Ned Rothenberg, Christine Abdelnour, Colin Stetson and Mats Gustafsson) have all explored the multiphonic landscape with an unmistakable personal approach. I have tried to work my way into creating my own musical vocabulary through some of the gaps left by my peers in the field, as well as making use of (and possibly personalize) techniques and approaches they have, in some cases, initiated.

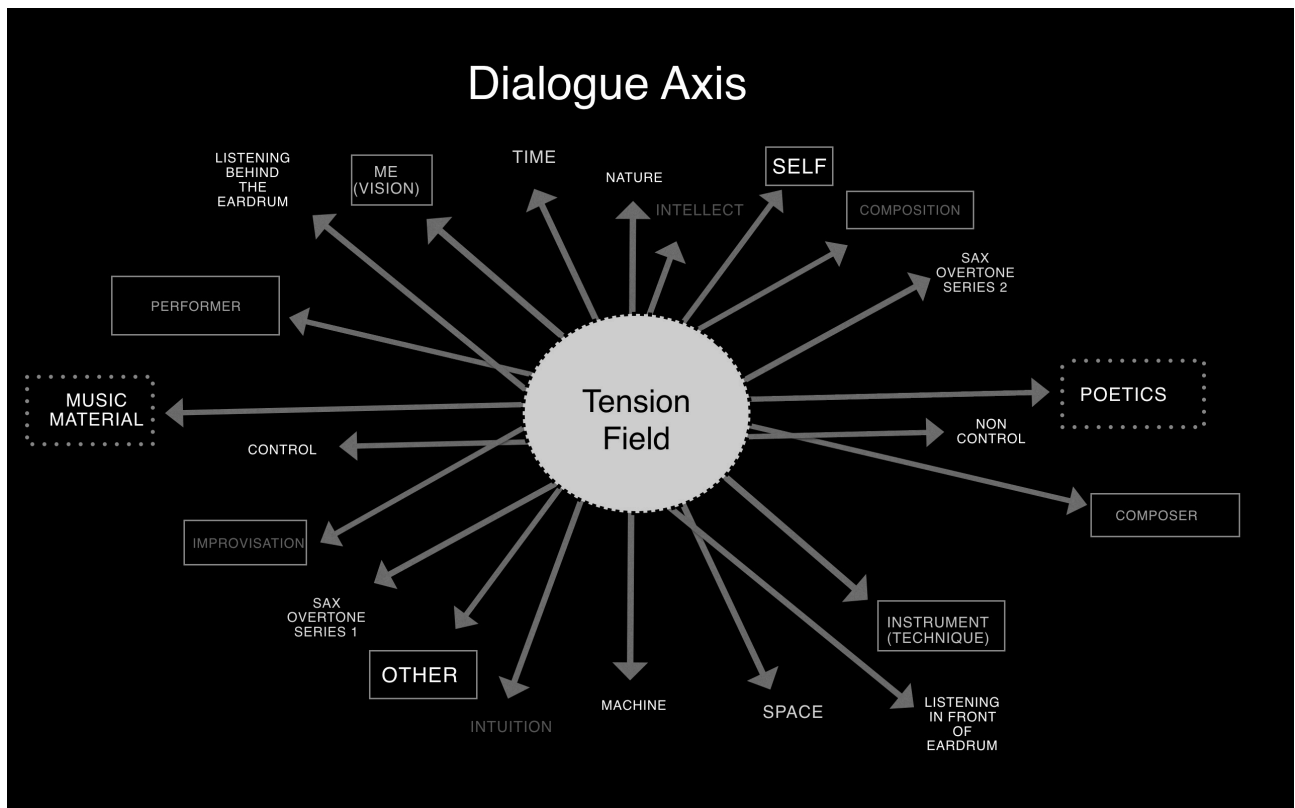
In this process, I believe my background in contemporary classical music might have made it possible for my music to take on another aesthetic than the 'prevailing' jazz/free improvisation aesthetic. At times a different construction attitude to the material, a subtle focus on the softer dynamics, and use textures with a slightly different timbral surface. Making the decision to put a lot of efforts on my archive box also contributed to a detailed personal focus on the multiphonic possibilities. It gave me both a close look at what the instrument 'hides' of secrets and possibilities, and opened up new paths far away from it (e.g. underwater soundscapes). Nevertheless, how others perceive all of this is naturally not up to me to assume, I can only give an insight into my artistic thinking and intentions through this reflection text and more importantly through my three solo albums.

I will not claim that 'The Poetics of a Multiphonic Landscape' reveals any entirely new unimagined strategies or techniques. Nor can the result of my research be seen as particularly easy to apply for others. But, what I believe a project such as mine can hardly avoid doing is breaking some new ground for the multiphonic as a means of expression – and I have wanted to be one voice in this discussion.

Have I come closer to the poetics of multiphonics? Surely, I can only answer for myself. I believe that working with the eight fundamental criteria (dogma), and in the process being very clear about maintaining a focused and reflected artistic practice during my research, I have arrived at some music that feels inspired and is close to what I initially had hoped and imagined to reach. I, at least, felt that a poetic light was enabled to shine upon the music. There are many multiphonic possibilities I haven't explored yet, and only part of my multiphonic findings have been truly

embodied and integrated into my performances. Fortunately, I have them waiting in a ‘personal library’ to inspire me further in the years to come.

Something I haven’t specifically revealed during the reflection text is how I came to think of the project as something that involved a series of dialogical relationship between two polarities and in that way created an inspiring ‘tension field’:



I have tried to use the tension field arising from this dialogue axis to zoom in on the most important concerns in the project and furthermore use them as starting points for my reflections and artistic choices. It is clear to me that there are too many implications to elaborate fully on here, and that my project reflections can only grasp part of them. Furthermore, there are of course many other polarities to be discovered and survey, consequently many more questions to be answered.

However, I believe they put forward something that can inspire my thinking and artistic practice way beyond the scope of this project and therefore also belong to the afterlife of the project, the future of the multiphonics, and also this closing text.

The project has been a lonely journey; from the first insecurities of what artistic research really is about, to finding a confident standing in it and being able to grow artistically, as well as to trigger and expand my perspectives on art in general. The creative process, the practice, the performances

and the recordings have all been done mostly in a solitary sphere. It felt like it just had to, after coming to terms with working out of a dogma for the project. In the future, however, I look forward to increasingly making use of multiphonics in ensemble settings, and I plan to compose music that will make space for these sonorities to breathe alongside other instruments. Furthermore, I believe it is time for me to explore some new music projects that will deal with combining acoustic sonics and electronics, without losing the intimacy and speediness in the interaction between the performers and between the acoustic and electronic instruments in use.

In a musical culture more and more absorbed by the overwhelming opportunities of new technology, hectic impersonal virtual communication, and unsocial consumer focus, I believe projects like mine represents a contribution to emphasize the values of embodied knowledge. Something I also elaborated on in the conclusive part of my introduction to this reflection (p.13). This embodied knowledge is to be understood as a multilayered mind–body continuum of corporality, affectivity, cognition and spirituality whose layers are subtly interwoven and mutually interactive. From this, intimacy with everything that surrounds us arises and offers a valuable experience of being human.

I don't know what reality is; we each have our experience of taking in the world and our place in the world through sound.

I do however know that once you sign on to spend your life with a musical instrument, you have something very consistent in your life, almost like a meditation practice. More importantly, you also have something that enables to interact emphatically with everything surrounding you.

Appendix

The Poetics of a Multiphonic Landscape's artistic result and activity.

The Artistic Result:

is documented through an acoustic solo album trilogy, performed, and composed by Torben Snekkestad. The title is: '*The Poetics of a Multiphonic Landscape*', and consists of the following albums:



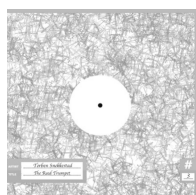
Torben Snekkestad - *Winds Of Mouth*

Format: 500 vinyl - 1000 CD + Digital format (ILK LP/CD 250)



Torben Snekkestad - *Plateau*

Format: 500 vinyl - 1000 CD - + Digital format (ILK251LP/CD)



Torben Snekkestad - *The Reed Trumpet*

Format: 100 vinyl (handwritten and numbered) (ILK LP 252)

The trilogy is recorded and produced by Torben Snekkestad.

'Winds of Mouth' and 'Plateau' are mixed by Andreas Mjøs & Torben Snekkestad, audio mastering by Helge Sten at Audio Virus LAB

'The Reed Trumpet' is mixed and mastered by John Fomsgaard at Karma Crew.

International release on the 19th of February 2016 – ILK music (www.ilkmusic.com)

Reflections on the project:

The reflection on the project is written in english and available as a PDF-document on:
(www.torbensnekkestad.com/research)

Supervisors

Internal supervisor at Norwegian Academy of Music: Ivar Frounberg

External supervisor: Evan Parker

Text writing supervisor: Eivind Buene

Further supervising: in a mix of talks, discussions, lessons or music performance with important peers in my field:

John Butcher, Nate Wooley, Bjørn Kruse, Peter Evans, Agusti Fernandez, Lotte Anker, Rolf Erik Nystrøm, Søren Kjærgaard, Thomas Strønen, Jacob Anderskov, Karsten Fundal, Hans Peter Stubbe Teglbjærg, Koichi Makigami, Benjamin Dwyer, Barry Guy, Franziska Schroeder and more.

Activity:

Live concerts as part of the project 2013-2016

- 28 solo concerts in Norway, Denmark, Sweden, Japan, USA, Austria, Spain, Ireland and England.
- Duo concerts nationally and abroad with: Barry Guy, Koichi Makigami, Peter Evans, Paal Nilssen-Love, David Whitwell, Thomas Strønen, Peter Bruun, Augusti Fernandez, Nate Wooley, Hans Peter Stubbe Teglbjærg, Michiyo Yagi, Maja S.K. Ratkje.
- Composition collaboration, workshop and concerts with composer Hans Peter Stubbe Teglbjærg. Various international tour activities with my trio: The Living Room (w/ Thomas Strønen and Søren Kjærgaard) in Japan, Spain, England, Norway and Denmark. Concerts with Barry Guy "Blue Shroud" ensemble in Germany, Poland and Switzerland. Several workshops and concerts as a soloist with "The Norwegian Wind Ensemble" in Norway. Live concert recording with The Living Room & Barry Guy in Copenhagen. Concert with research fellows Per Zanussi and Morten Qvenild. Performances in various ensembles from the creative music community in Copenhagen.

Participation in the Norwegian Artistic Research Programme`s mandatory parts:

- Participation in four mandatory seminars 2012-2014

Research Fellowship Seminar # 1 - Introduction seminar - Artistic Research
8-10 October 2012 - Soria Moria Konferanse Hotell, Oslo

Research Fellowship Seminar # 2 - Critical Reflection
15-17 January 2013 - Voksenåsen, Oslo

Research Fellowship Seminar # 3 - Ownership, copyright and third-person relations
21 & 22 May 2014 - Voksenåsen, Oslo

Research Fellowship Seminar # 4 – Project development
2 & 3 June 2014 - Rica Hotel Gardemoen, Gardemoen

- Participation in research fora 2012-2015

Artistic Research Forum 20-21 October 2012 - Bergen

Artistic Research Forum 20-21 March 2013 - Voksenåsen, Oslo (*presentation*)

Artistic Research Forum 21-23 October 2013 - Trondheim

Artistic Research Forum 25-26 March 2014 - Voksenåsen, Oslo (*presentation*)

Artistic Research Forum 21-23 October 2014 - UiT Norge Arktiske Universitet, Tromsø

Artistic Research Forum 17 -18 March 2015 - Holmen Fjordhotel , Asker (*presentation*)

Project specific part:

Norwegian Academy of Music (NMH):

- 5 internal presentations at NMH (2012-2015)
- Participation in NMH's - Jazz Department meetings.
- Participation in internal KUST courses by Ole Lützow-Holm, Sten Sandell, Ivar Frounberg, Åsa Unander-Scharin, Eivind Buene & "Max msp" course with research fellow Christian Blom.
- Teaching at NMH: supervisor for bachelor students and individual lessons for other students. Masterclasses for saxophonists, ensemble workshops in improvisation, guest teacher at InterC-course, and leading an ensemble week project (ending with a large student ensemble concert)
- Soloist with "Norwegian Academy of Music's Percussion Ensemble" Participant in Fred Frith's project on NMH's jazzfestival *Serendip*. Solo & duo concert in NMH's concert series: RAW:

External activities:

- Presentation at RMC in Copenhagen for employees in the research department
- Presentation at KUV symposium for NMH, University of Gothenburg and RMC
- Presentation, workshop & solo-concert at Universität für Musik und Darstellende Kunst - Graz
- Presentation, workshop & solo-concert at Royal Academy of Music Århus/Aalborg in Århus
- Presentation, workshop & solo-concert at “Scandinavian Saxophone Festival” in Århus.
- Presentation & solo-concert at “Musikkens Hus” - Sønderho (dk)
- Presentation & solo-concert at Sonic Arts Research Centre - Queen's University Belfast
- Presentation & solo-concert at Middlesex University - London